NORTH AMERICAN LISTINGS including Hawaii and U.S. possessions

\$35.00

IN THIS ISSUE

752,427 Licensed Radio Amateurs

57,154 New Licenses Issued Since the 1995 Edition

Over 81,000 Changes in Listings

Then and Now— Call Letter Changes

6 and 10 Meter Beacon Lists

Radio Amateur Prefixes of the World

Table of Call Sign Allocations

DMC Countries List

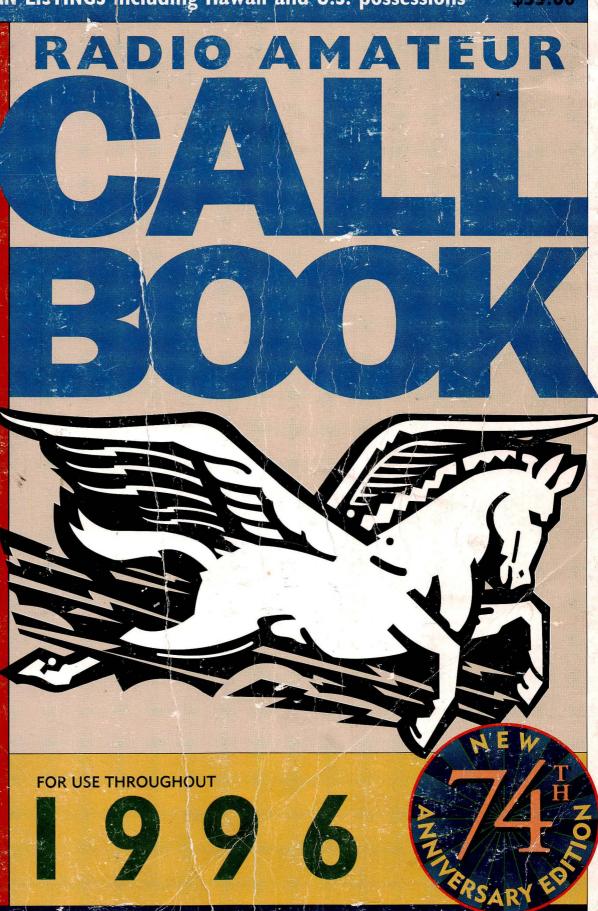
Census of Amateur Radio Licenses of the World

Census of Amateur Radio Licenses of the U.S.

Radio Amateurs Operating with Reciprocal Licenses

World Wide QSL Bureaus

Plus Many Other Features



The Only Publication Listing Licensed Radio Amateurs Throughout the World Since 1920

Monday 3 Mon

Building on last year's top-to-bottom rewrite, the brand new **1996 ARRL Handbook** is packed with new projects and updated information. And, for the first time in **Handbook** history, the 1996 edition includes SOFTWARE. See the full description of disk below for details! Whether you're an Amateur Radio beginner, an experienced operator, electronic technician, engineering student or engineer, you'll **find each chapter of the 1996 ARRL Handbook a standalone "mini-book"** that will cover your favorite topics and provide invaluable reference material, fascinating facts and some great new do-it-yourself projects.

No matter what aspect of Amateur Radio piques your interest, you'll find what you're looking for in the new 1996 ARRL Handbook. Take a look at some highlights:

Station Accessories—12-V distribution boxes for station (and mobile) accessories. An audio break-out box feeds several accessories from a single source. Use the RF Sniffer to track down sources of RF. A simple two-channel analog-to-digital converter project lets your computer make measurements and compute SWR. An audio display for meters is handy for both vision impaired and sighted hams. Several hams tell how to transport H-Ts conveniently. And keyers for all! An updated Uncle Al's keyer reads code too, two more based on the Curtis 8044ABM IC, and a CW send and receive system for IBM compatible computers.

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Antennas—More antennas for new hams! Examples: a simple wire loop for 28 MHz and a copper 2-meter J-pole. Also, selected antenna Hints and Kinks.

Transceivers—Check out the new multiband QRP transceiver from Wayne Burdick, N6KR, and the NorCal QRP club: Operate 160 through 10 meters with plug-in band modules. Try a VLF transceiver (no license required!) or a QRP transmitter built from a single IC.

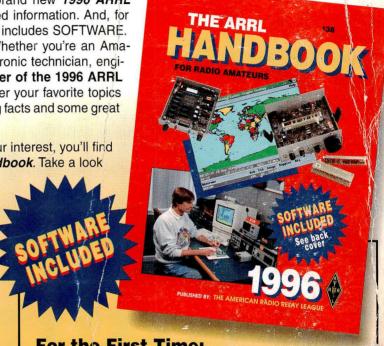
Filters—A new DSP filter from Dave Hershberger, W9GR, offers 18 different modes, including DTMF and CTCSS tone decoding.

Satellites—Learn about plans for the new Phase 3D bird.
Build a "Junk Box" Satellite Receiver or a Mode-S Receive
Converter

Amplifiers—'96 is the year for 2-meter amplifiers: A new "brick" amplifier can boost an H-T to 25 or 50 W (builder's choice), and a 3CX1200Z7 provides 1.2 kW. Now that's talk power! For high-power buffs, there's a 3200-V, 2-A supply.

Modulation Sources—G-TOR, CLOVER and PACTOR II are on the cutting edge of amateur HF digital communication. Read Chapter 12 and decide which mode is best for your application.

Once you pick up your copy of the new 1996 ARRL Handbook, you'll be glad you waited. Order your copy today. ARRL Order #1735 — Retail \$38 plus \$6 for shipping and handling, 1168 pages in softcover.



For the First Time: ARRL Handbook Software

on the new 1996 ARRL Handbook.

This year's *ARRL Handbook* includes a 3.5-inch, 1.44-MB IBM compatible diskette with a variety of standalone applications and programs used with projects in the book.

TISFIND, a Windows application from the ARRL's Technical Information Service, provides you with the names and addresses of more than 900 Amateur Radio vendors and organizations. Your frustrating hunts for suppliers are history!

COILS, from Brian Beezley, K6STI, calculates the important characteristics of solenoidal coils.

ACTFIL is for designing active audio filters described in the Filters chapter.

The clisk also features the software side of several projects in the book: an SSTV interface from Ben Vester, K3BC; a PC interface for sending CW from Ralph Taggart, WB8DQT; and a PC voltmeter from Paul Danzer, N1II.

Other software is useful for helping to find true North; for designing shortened, inductively loaded dipoles; and for designing Pi and Pi-L matching networks.

e-mail: ltardette@arrl.org

tel: 860-594-0200 fax: 860-594-0303 World Wide Web: http://www.arrl.org/

RADIO AMATEURS of NORTH AMERICA

Including Hawaii and the U.S. Possessions

VOLUME 74 NUMBER I 1996

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Licensed radio amateurs are listed in the Callbook without charge except Special Listings. Every effort is made to keep this publication as complete and accurate as possible. Please notify us promptly of any of any change in your address. We cannot accept responsibility for errors, omissions, misspelled names, or incorrect addresses.

Any errors should be called to the Company's attention immediately.

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RADIO AMATEUR

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-	SECOND U.S. CALL AREA Includes Guam, U.S.Virgin Islands, and the States of New Jersey and New York.
	THIRD U.S. CALL AREA Includes the District of Columbia and the States of Delaware, Maryland, and Pennsylvania.
	FOURTH U.S. CALL AREA 390 Includes Puerto Rico and the States of Alabama, Florida, Georgia, Kentucky, North Carolina, Tennessee, and Virginia.
	FIFTH U.S. CALL AREA 750 Includes the States of Arkansas, Louisiana, Mississippi, New Mexico, Oklahoma, and Texas.
	SIXTH U.S. CALL AREA Includes the States of California and Hawaii.
	SEVENTH U.S. CALL AREA Includes the States of Alaska, Arizona, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming.
	EIGHTH U.S. CALL AREA Includes American Samoa and the States of Michigan, Ohio and West Virginia.
	NINTH U.S. CALL AREA Includes the States of Illinois, Indiana, and Wisconsin.
	TENTH U.S. CALL AREA Includes the Mariana Islands and the States of Colorado, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.
100	NORTH AMERICAN COUNTRIES OUTSIDE THE U.S.A. 1902

AAN

TABLE OF ALLOCATION OF INTERNATIONAL CALL SIGN SERIES

As Issued by the International Telecommunications Union and Others

Call Sign Series							
AAA-ALZ AMA-AOZ	United States of America Spain	OMA-OMZ ONA-OTZ	Slovak Republic Belgium	ZPA-ZPZ ZQA-ZQZ	Paraguay Great Britain & Northern Ireland	9HA-9HZ 9IA-9JZ	Malta Zambia
APA-ASZ ATA-AWZ	Pakistan India	OUA-OZZ	Denmark	ZRA-ZUZ ZVA-ZZZ	Rep. of South Africa Brazil	9KA-9KZ 9LA-9LZ	Kuwait Sierra Leone
AXA-AXZ AYA-AZZ	Australia Argentina	PAA-PIZ PJA-PJZ	Netherlands Netherlands Antilles	2AA-2ZZ	Great Britain & Northern Ireland	9MA-9MZ 9NA-9NZ	Malaysia Nepal
		PKA-POZ	Indonesia			90A-9TZ	Zaire
BAA-BZZ	China	PPA-PYZ PZA-PZZ	Brazil Surinam	3AA-3AZ 3BA-3BZ	Monaco Mauritius	9UA-9UZ 9VA-9VZ	Burundi Singapore
CAA-CEZ	Chile			3CA-3CZ	Equatorial Guinea	9WA-9WZ	Malaysia
CFA-CKZ CLA-CMZ	Canada Cuba	RAA-RZZ	Russian Federation	3DA-3DM 3DN-3DZ	Swaziland Fiji	9XA-9XZ 9YA-9ZZ	Rwanda Trinidad and Tobago
CNA-CNZ	Morocco	SAA-SMZ	Sweden	3EA-3FZ	Panama		
COA-COZ CPA-CPZ	Cuba Bolivia	SNA-SRZ SSA-SSM	Poland Egypt	3GA-3GZ 3HA-3UZ	Chile China	A2A-A2Z A3A-A3Z	Botswana Tonga
CQA-CUZ CVA-CXZ	Portugal	SSN-SSZ STA-STZ	Sudan	3VA-3VZ	Tunisia	A4A-A4Z	Oman
CYA-CZZ	Uruguay Canada	SUA-SUZ	Sudan Egypt	3WA-3WZ 3XA-3XZ	Viet Nam Guinea	A5A-A5Z A6A-A6Z	Bhutan United Arab Emirates
DAA-DRZ	Germany	SVA-SZZ	Greece	3YA-3YZ 3ZA-3ZZ	Norway Poland	A7A-A7Z A8A-A8Z	Qatar Liberia
DSA-DTZ	South Korea	TAA-TCZ	Turkey	L.A.	Polatiu	A9A-A9Z	Bahrain
DUA-DZZ	Philippines	TDA-TDZ TEA-TEZ	Guatemala Costa Rica	4AA-4CZ 4DA-4IZ	Mexico Philippines	C2A-C2Z	Nauru
EAA-EHZ	Spain	TFA-TFZ	Iceland	4JA-4KZ	Azerbaijan	C3A-C3Z	Andorra
EIA-EJZ EKA-EKZ	Ireland Armenia	TGA-TGZ THA-THZ	Guatemala France	4LA-4LZ 4MA-4MZ	Georgia Venezuela	C4A-C4Z C5A-C5Z	Cyprus Gambia
ELA-ELZ	Liberia	TIA-TIZ	Costa Rica	4NA-4OZ	Yugoslavia	C6A-C6Z	Bahamas
EMA-EOZ EPA-EQZ	Ukraine Iran	TJA-TJZ TKA-TKZ	Cameroon France	4PA-4SZ 4TA-4TZ	Sri Lanka Peru	C7A-C7Z C8A-C9Z	World Meteorological Organization Mozambique
ERA-ERZ	Moldova	TLA-TLZ	Central African Republic	4UA-4UZ	United Nations		
ESA-ESZ ETA-ETZ	Estonia Ethiopia	TMA-TMZ TNA-TNZ	France Congo	4VA-4VZ 4XA-4XZ	Haiti Israel	D2A-D3Z D4A-D4Z	Angola Cape Verde
EUA-EWZ	Belarus	TOA-TQZ	France	4YA-4YZ	Int. Civil Aviation Organization	D5A-D5Z	Liberia
EXA-EXZ EYA-EYZ	Russian Federation Tajikistan	TRA-TRZ TSA-TSZ	Gabon Tunisia	4ZA-4ZZ	Israel	D6A-D6Z D7A-D9Z	Comoros South Korea
EZA-EZZ	Turkmenistan	TTA-TTZ	Chad	5AA-5AZ	Libya		
FAA-FZZ	France	TUA-TUZ TVA-TXZ	Ivory Coast France	5BA-5BZ 5CA-5GZ	Cyprus Morocco	E2A-E2Z	Thailand
		TYA-TYZ	Benin	5HA-5IZ	Tanzania	H2A-H2Z	Cyprus
GAA-GZZ	Great Britain & Northern Ireland	TZA-TZZ	Mali	5JA-5KZ 5LA-5MZ	Colombia Liberia	H3A-H3Z H4A-H4Z	Panama Solomon Islands
HAA-HAZ	Hungary	UAA-UIZ	Russian Federation	5NA-50Z	Nigeria	H6A-H7Z	Nicaragua
HBA-HBZ HCA-HDZ	Switzerland Ecuador	UJA-UMZ UNA-UQZ	Uzbekistan Russian Federation	5PA-5QZ 5RA-5SZ	Denmark Madagascar	H8A-H9Z	Panama
HEA-HEZ	Switzerland	URA-UTZ	Ukraine	5TA-5TZ	Mauritania	J2A-J2Z	Djibouti
HFA-HFZ HGA-HGZ	Poland Hungary	UUA-UZZ	Ukraine	5UA-5UZ 5VA-5VZ	Niger Togo	J3A-J3Z J4A-J4Z	Grenada Greece
HHA-HHZ HIA-HIZ	Haiti	VAA-VGZ VHA-VNZ	Canada	5WA-5WZ 5XA-5XZ	Western Samoa	J5A-J5Z	Guinea-Bissau
HJA-HKZ	Dominican Republic Colombia	VOA-VOZ	Australia Canada	5YA-5ZZ	Uganda Kenya	J6A-J6Z J7A-J7Z	Saint Lucia Dominica
HLA-HLZ HMA-HMZ	South Korea North Korea	VPA-VSZ VTA-VWZ	Great Britain & Northern Ireland India	6AA-6BZ	Equat	J8A-J8Z	St. Vincent and the Grenadines
HNA-HNZ	Iraq	VXA-VYZ	Canada	6CA-6CZ	Egypt Syria	L2A-L9Z	Argentina
HOA-HPZ HQA-HRZ	Panama Honduras	VZA-VZZ	Australia	6DA-6JZ 6KA-6NZ	Mexico South Korea	P2A-P2Z	Papua New Guinea
HSA-HSZ	Thailand	WAA-WZZ	United States of America	60A-60Z	Somalia	P3A-P3Z	Cyprus
HTA-HTZ HUA-HUZ	Nicaragua El Salvador	XAA-XIZ	Mexico	6PA-6SZ 6TA-6UZ	Pakistan Sudan	P4A-P4Z P5A-P9Z	Aruba North Korea
HVA-HVZ	Vatican City	XJA-XOZ	Canada	6VA-6WZ	Senegal		NOTHI KOICA
HWA-HYZ HZA-HZZ	France Saudi Arabia	XPA-XPZ XQA-XRZ	Denmark Chile	6XA-6XZ 6YA-6YZ	Madagascar Jamaica	S2A-S3Z S5A-S5Z	Bangladesh Slovenia
		XSA-XSZ	China	6ZA-6ZZ	Liberia	S6A-S6Z	Singapore
IAA-IZZ	Italy	XTA-XTZ XUA-XUZ	Burkina-Faso Cambodia	7AA-7IZ	Indonesia	S7A-S7Z S9A-S9Z	Seychelles Sao Tome and Principe
JAA-JSZ	Japan	XVA-XVZ	Viet Nam	7JA-7NZ	Japan		
JTA-JVZ JWA-JXZ	Mongolia Norway	XWA-XWZ XXA-XXZ	Laos Portugal	70A-70Z 7PA-7PZ	Yemen Lesotho	T2A-T2Z T3A-T3Z	Tuvalu Kiribati
JYA-JYZ	Jordan	XYA-XZZ	Myanmar	7QA-7QZ	Malawi	T4A-T4Z	Cuba
JZA-JZZ	Indonesia	YAA-YAZ	Afghanistan	7RA-7RZ 7SA-7SZ	Algeria Sweden	T5A-T5Z T6A-T6Z	Somalia Afghanistan
KAA-KZZ LAA-LNZ	United States of America Norway	YBA-YHZ YIA-YIZ YJA-YJZ	Indonesia Iraq Vanuatu	7TA-7YZ 7ZA-7ZZ	Algeria Saudi Arabia	T7A-T7Z T9A-T9Z	San Marino Bosnia and Herzegovina
LOA-LWZ	Argentina	YKA-YKZ	Vanuatu Syria	8AA-8IZ	Indonesia	V2A-V2Z	Antigua and Barbuda
LXA-LXZ LYA-LYZ	Luxembourg Lithuania	YLA-YLZ YMA-YMZ	Latvia Turkey	8JA-8NZ 80A-80Z	Japan Botswana	V3A-V3Z V4A-V4Z	Belize St. Kitts and Nevis
LZA-LZZ	Bulgaria	YNA-YNZ	Nicaragua	8PA-8PZ	Barbados	V5A-V5Z	Namibia
MAA-MZZ	Great Britain & Northern Ireland	YOA-YRZ YSA-YSZ	Romania El Salvador	8QA-8QZ 8RA-8RZ	Maldives Guyana	V6A-V6Z V7A-V7Z	Micronesia Marshall Islands
		YTA-YUZ	Yugoslavia	8SA-8SZ	Sweden	V8A-V8Z	Brunei
NAA-NZZ OAA-OCZ	United States of America Peru	YVA-YYZ YZA-YZZ	Venezuela Yugoslavia	8TA-8YZ 8ZA-8ZZ	India Saudi Arabia	Y2A-Y9Z	Germany
ODA-ODZ	Lebanon	ZAA-ZAZ	Albania	9AA-9AZ	Croatia	Z2A-Z2Z	Zimbabwe
OEA-OEZ OFA-OJZ	Austria Finland	ZBA-ZJZ ZKA-ZMZ	Great Britain & Northern Ireland New Zealand	9BA-9DZ 9EA-9FZ	Iran Ethiopia	Z3A-Z3Z	Macedonia
OKA-OLZ	Czech Republic	ZNA-ZOZ	Great Britain & Northern Ireland	9GA-9GZ	Ghana		

CENSUS OF AMATEUR RADIO LICENSES* in the U.S.A.

by classes, within states and call areas

Call Area	State	Novice	Technician	Plus	General	Advanced	Extra	Club	Military	State Totals	Percent of Licenses
1	CT MA ME NH RI VT	1,666 2,270 559 583 420 231 5,729	2,533 4,653 1,225 1,503 773 749 11,436	532 927 321 331 168 135 2,414	1,900 3,288 1,013 964 535 433 8,133	1,513 2,693 681 707 361 325 6,280	1,071 1,998 483 626 324 242 4,744	70 106 20 21 26 19 262	2 4 1 1 1 1	9,287 15,939 4,303 4,736 2,608 2,134 39,007	1.34 2.30 .62 .68 .38 .31 5.64
2	GU NJ NY VI AE	167 2,625 6,875 44 120 9,831	201 5,204 11,248 106 183 16,942	31 1,057 2,195 16 39 3,338	56 3,475 6,766 82 110 10,489	46 3,120 5,692 56 84 8,998	46 2,098 3,732 49 40 5,965	1 168 224 2 395	7 5	548 17,754 36,737 355 <u>576</u> 55,970	.08 2.57 5.31 .05 .08 8.09
3	DC DE MD PA	85 209 1,485 3,629 5,408	122 453 3,769 7,740 12,084	18 86 635 1,590 2,329	132 286 2,262 5,100 7,780	93 226 2,248 4,439 7,006	82 195 1,477 2,990 4,744	1 6 71 149 227	4 1 8 12 25	537 1,462 11,955 25,649 39,603	.08 .21 1.73 3.71 5.72
4	AL FL GA KY NC PR SC TN VA AA	1,037 6,794 1,500 1,214 2,001 4,378 694 1,480 2,035 37 21,170	4,059 12,046 5,116 3,201 6,054 2,279 2,107 5,090 5,210 50 45,212	563 2,306 786 508 1,063 464 361 855 1,131 6 8,043	1,739 9,114 2,572 1,444 3,016 727 1,314 2,261 3,053 32 25,272	1,650 7,566 2,503 1,184 2,802 574 1,058 2,266 3,016 12 2,2631	1,079 4,146 1,486 829 1,756 270 649 1,458 2,001 6 13,680	36 103 54 35 58 4 66 47 59	2 4 3 1 2 1 2 3 5 1 2 4	10,165 42,079 14,020 8,416 16,752 8,697 6,251 13,460 16,510 144 136,494	1.47 6.08 2.03 1.22 2.42 1.26 .90 1.95 2.39 .02
5	AR LA MS NM OK TX	620 926 546 387 1,134 4,407 8,020	2,546 2,493 1,648 1,863 3,424 14,451 26,425	396 413 229 233 494 2,221 3,986	1,026 1,412 833 871 1,468 7,688 13,298	1,017 1,339 804 870 1,494 7,397	716 820 476 572 907 4,562 8,053	18 31 15 16 31 158 269	1 3 2 1 8 15	6,340 7,437 4,553 4,812 8,953 40,892 72,987	.92 1.08 .66 .70 1.29 5.91 10.55
6	CA HI AP FM MP PW TT	16,914 696 120 1 8 1 17,740	41,334 1,100 164 42	6,062 170 29 5	16,344 567 78 17 17	15,494 508 43 21 1 16,068	8,369 304 43 29 5 8,750	492 28 2 1	14 3 7	105,023 3,376 486 1 123 2 8 109,019	15.18 .49 .07 .00 .02 .00 .00
7	AK AZ ID MT NV OR UT WA WY	443 1,246 411 367 368 1,611 761 3,126 217 8,550	1,034 5,534 1,357 907 1,442 4,081 3,702 8,411 572 27,040	142 861 233 168 221 730 446 1,542 104 4,447	627 2,629 721 575 813 2,664 747 4,449 285	516 2,442 580 443 656 2,075 783 3,630 230 11,355	321 1,446 321 292 389 1,184 466 2,308 178 6,905	10 39 14 17 19 46 13 85 6 249	1 2 4	3,099 14,198 3,637 2,769 3,908 12,392 6,920 23,555 1,592 72,070	.45 2.05 .53 .40 .56 1.79 1.00 3.41 .23
8	AS MI OH WV	11 2,624 4,103 869 7,607	38 7,172 11,557 2,421 21,188	1,250 2,070 432 3,758	11 4,242 5,544 935 10,732	3,586 4,834 738 9,163	11 2,152 3,046 556 5,765	2 103 175 22 302	84 1 1 3 5	.01 21,130 31,330 5,976 58,520	3.05 4.53 <u>.86</u> 8.46
9	IL IN WI	3,569 2,077 1,290 6,936	7,970 5,551 3,408 16,929	1,286 919 <u>558</u> 2,763	4,774 2,743 2,177 9,694	4,144 2,373 1,830 8,347	2,530 1,454 1,126 5,110	151 100 <u>47</u> 298	13	24437 15,217 10,436 50,090	3.53 2.20 1.51 7.24
10	CO IA KS MN MO ND NE SD	1,325 1,074 1,043 1,301 1,544 249 492 174 7,202	3,858 1,939 2,545 3,315 3,997 568 1,190 444 17,856	669 358 436 624 727 89 230 70 3,203	2,161 1,472 1,587 2,299 2,635 369 963 363 11,849	2,011 1,396 1,122 1,960 2,240 246 763 303	1,187 712 726 1,138 1,342 163 389 170 5,827	36 43 47 62 63 12 29 12 304	2 1 1 4	11,247 6996 7507 10,699 12,549 1,696 4,056 1,536 56,286	1.63 1.01 1.09 1.55 1.81 .25 .59 .22
Grand		98,305	237,868	40,559	127,856	113,963	69,781	3,293	150	691,775	100.00
Percen total lic		14.21	34.39	5.86	18.48	16.47	10.09	.48	.02		

RADIO PUBLICATIONS HANDBOOKS



ALL ABOUT CUBICAL QUAD ANTENNAS by William I. Orr W6SAI and Stuart D. Cowan W2LX

This well-known classic has been updated to include new Quad designs; new dimension charts for every type of Quad from 6 to 80 meters: additional gain figures: an analysis of Quad vs. Yagi; Mini and Monster Quad designs; Delta, Swiss, and Birdcage Quads; and on improved Tri-Gamma match to feed a triband Quad efficiently with one transmission line. Also covered are feed systems and tuning procedures for maximum gain and minimum SWR. Much of this data has never before been published. ISBN 0-8230-8703-4. \$13.95



BEAM ANTENNA HANDBOOK by William I. Orr W6SAI and Stuart D. Cowan W2LX

This popular new edition gives you the correct dimensions for 6, 10, 15, 20 and 40 meter beams; data on triband and

compact beams: the truth about beam height: SWR curves for popular beams for 6 to 40 meters; and comparisons of T-match, Gamma match, and direct feed. It describes tests to confirm if your beam is working properly, tells how to save money by building your own beam and balun, and discusses test instruments and how to use them. This book is a "must" for the serious DX'er! ISBN 0-8230-8704-2. \$13.95



ALL ABOUT VHF AMATEUR RADIO by William I. Orr W6SAI

This new handbook covers VHF propagation and DX. the VHF repeater and how it works for you. VHF moonbounce communication, and amateur satellite communication. It discusses vertical and horizontal mobile antennas, tells almost everything about coaxial cables, and describes VHF beam antennas you can build yourself. It also includes information on SWR measurements. VHF interference and how to suppress it, and even the proper care of Ni-cad batteries. This is a complete handbook of VHF radio for amateurs. ISBN 0-8230-8705-0.

\$13.95



THE RADIO AMATEUR ANTENNA HANDBOOK by William I. Orr

W6SAI and Stuart D. Cowan W2LX

This clearly written handbook contains a wealth of information about amateur antennas, from beams to baluns, tuners, and towers. The exclusive "Truth Table" gives you the actual dB gain of 10 popular antenna types. Describes how to build multiband vertical and horizontal antennas, Quads, Delta Quads, Mini-Quads, a Monster Quad, DX "slopers," triband beams, and VHF Quagi and log periodic Yagi beams. Dimensions are given for all antennas in English and metric units. Covers radials, coaxial cable loss, "bargain" coax, baluns, SWR meters, wind loading, tower hazards, and the advantages and disadvantages of crankup tilt-over towers. ISBN 0-8230-8706-9. \$13.95



SIMPLE, LOW-COST WIRE ANTENNAS FOR RADIO AMATEURS by William I. Orr

W6SAI and Stuart D.

Cowan W2LX

Now-another great handbook joins the famous Cubical Quad and Beam Antenna Handbooks. Provides complete instructions for building tested wire antennas from 2 through 160 meters: horizontal, vertical, multiband traps, and beam antennas. Describes a 3-band Novice dipole with only one feedline: the "folded Marconi" antenna for 40, 80, or 160 meters: "invisible" antennas for difficult locations-hidden, disguised, and disappearing antennas (the Dick Tracy Special. the CIA Special). Covers antenna tuners and baluns, and gives clear explanations of radiation resistance. impedance, radials. ground systems, and lightning protection. This is a truly practical handbook. ISBN 0-8230-8707-7.



\$13.95

THE TRUTH ABOUT CB ANTENNAS by William I. Orr W6SAI and Stuart D. Cowan W2LX

Contains everything the CB'er needs to know to buy or build, install, and adjust efficient CB antennas for strong, reliable signals. A unique "Truth Table" shows the dB gain from 10 of the most popular CB antennas. The antenna is the key to clear, reliable communication but most CB antennas do not work near peak

efficiency. Now, for the first time, this handbook gives clear informative instructions on antenna adjustment, exposes false claims about inferior antennas, and helps you make your antenna work. This handbook features exclusive and complete coverage of the "Monster Quad" beam. the "King" of CB antennas. ISBN 0-8230-8708-5.



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CENSUS OF AMATEUR RADIO LICENSES OF THE WORLD*

Prefix	Country	Number of Radio Amateur Licenses Listed	Prefix	Country	Number of Radio Amateur Licenses Listed	Prefix	<u>Country</u>	Number of Radio Amateur Licenses Listed
AP AY-AZ A2 A3 A4	PAKISTAN ARGENTINA BOTSWANA TONGA OMAN	24 48 97 100	J3 J5 J6 J7 J8	GRENADA, WINDWARD ISLANDS GUINEA BISSAU ST. LUCIA, WINDWARD ISLANDS DOMINICA, WINDWARD ISLANDS ST. VINCENT, WINDWARD ISLANDS	7	XU XV XW XX XY,XZ	CAMBODIA VIETNAM LAOS. MACAO MYANMAR	5 5 42
A5 A6 A7 A9 BA-BZ BV	BHUTAN UNITED ARAB QATAR BAHRAIN CHINA TAIWAN		LA-LN LO-LW LX LY LZ	NORWAY ARGENTINA LUXEMBOURG LITHUANIA BULGARIA	33206 528 1214	YB-YH YI YJ YK YL YN	Indonesia Iraq Vanuatu Syria Latvia Nicaragua	
CA-CE CM, CO CN CP CQ-CU	CHILE CUBA MOROCCO BOLIVIA PORTUGAL		OA-OC OD OE OF-OI OH< OK-OL	PERU	217 7185 5072 52 4314	Y0-YR YS YT,YU,Y7 YV-YY YV<	ROMANIA EL SALVADOR YUGOSLAVIA VENEZUELA AVES IS., VENEZUELA	3805 417 2472 20771
CS3, C13 CU CV-CX C2 C3 C5 C6	MADEIRA IS., PORTUGAL AZORES IS., PORTUGAL URUGUAY NAURU ANDORRA. THE GAMBIA. BAHAMA IS		OM ON-OT OX OY OZ	SLOVAK REPUBLIC BELGIUM GREENLAND FAROES DENMARK NETHERLANDS	5179 102 116 9777	ZA ZB2 ZC4 ZD7 ZD8 ZD9 ZD9	ALBANIA GIBRALTAR CYPRUS ST. HELENA IS. ASCENSION IS. TRISTAN DA CUNHA ISLAND GOUGH ISLAND	
C8, C9 DA-DP DU-DZ D2, D3 D4 D6	MOZAMBIQUE		PP-PY	NETHERLANDS. CURACAO, NETHERLANDS ANTILLES. BIONAIRE, NETHERLANDS ANTILLES. SINT EUSTATIUS, NETHERLANDS ANS SABA, NETHERLANDS ANTILLES. SINT MAARTEN, NETHERLANDS ANT BRAZIL. FERNANDO DE NORONHA IS., BRAZII	27642	ZF ZK1 ZK2 ZK3 ZL,ZM ZP ZR-ZU	CAYMAN IS. COOK ISLANDS, NEW ZEALAND NIUE ISLAND, NEW ZEALAND TOKELAU ISLAND, NEW ZEALAND NEW ZEALAND PARAGUAY REPUBLIC OF SOUTH AFRICA	
EA-EH EA6-EH6 EA8-EH8	SPAIN BALEARIC CANARY CEUTA & MELILLA, SPAIN	42909 1166 2999 633 2329	PP<-PY< PP<-PY< PZ P2 P4	TRINDADE & MARTIM VAZ IS., BRAZI ST PETER & ST PAUL ROCKS SURINAME. PAPUA NEW GUINEAARUBA ARUBA	L	ZX,ZY Z2 2E 2M	BRAZIL ZIMBABWE ENGLAND, U.K. SCOTLAND, U.K.	
EJ EK EL EM-EO EP-EQ ER ES	Aran Is, Ireland Armenia Liberia Ukraine Iran Moldova Estonia		R, U SA-SM SN-SR ST SU SV-SZ	RUSSIA	12841 9684 6	3A 3B6 3B7 3B8 3B9 3C 3DA	MONACO. AGALEGA IS. ST. BRANDON IS. MAURITIUS IS. RODRIGUEZ IS. EQUATORIAL GUINEA. SWAZILAND.	
ET EU-EW EX EY EZ	ETHIOPIA BELARUS KYRGYZSTAN TAJIKISTAN TURKMENISTAN	3 3 64 51	S2 S5 S7 S8 S9	BANGLADESH. SLOVENIA. SEYCHELLES. TRANSKEI. SAO TOME & PRINCIPE		3D2 3V 3W 4F 4J,4K	FIJI IS. TUNISIA VIETNAM PHILIPPINES AZERBAIJAN	
F FG FH FJ FK FM FO	France Guadeloupe Mayotte St. Barthelemy New Caledonia Martinique French Polynesia	119 	TA-TC TE, TI TI9 TF TD,TG TJ TK	TURKEY. COSTA RICA. COCOS IS., COSTA RICA. ICELAND. GUATEMALA. CAMEROON. CORSICA.		4L 4M 4N4, 404 4S 4U 4U 4X, 4Z	GEORGIA VENEZUELA BOSNIA SRI LANKA UNITED NATIONS UNITED NATIONS UNITED NATIONS	
FP FR FJ, FS FY G, GX GD.GT	ST. PIERRE & MIQUELON IS. REUNION IS. SAINT MARTIN FRENCH GUIANA ENGLAND ISLE OF MAN		TL TN TP TR TT TU TV-TX	CENTRAL AFRICAN		5A 5B 5H1 5H-5I 5N, 50 5R, 5S	LIBYA CYPRUS ZANZIBAR, TANZANIA TANZANIA NIGERIA MADAGASCAR.	2
GH,GN GI,GN GJ GM,GS GU,GP GW,GC	ISLE UF MAN JERSEY. NORTHERN IRELAND, U.K. JERSEY. SCOTLAND, U.K. GUERNSEY. WALES, U.K.		TY TZ T2 T3 T5	BENIN MALI TUVALU KIRIBATI SOMALI REPUBLIC REPUBLIC OF SAN	9 17 24 100 4 76	5K, 5S 5T 5U 5V 5W 5X 5Y, 5Z	MAURITANIA NIGER TOGO WESTERN SAMOA UGANDA KENYA	
HA, HG HB HB< HC,HD HC8,HD8 HH	HUNGARY SWITZERLAND LIECHTENSTEIN ECUADOR GALAPAGOS IS., ECUADOR HAITI	4843 20 1944 38	UR-UZ VE VK VO1	BOSNIA & HERZEGOVINA	138	6T, 6U 6V-6W 6Y 7J-7N 7P	SUDAN SENEGAL JAMAICA JAPAN LESOTHO	163
HI HJ-HK HJ<,HK< HL HO-HP HQ-HR HS	DOMINICAN REPUBLIC COLOMBIA SAN ANDRES & PROVIDENCIA SOUTH KOREA PANAMA HONDURAS THAILAND		VO2 VP2E VP2M VP2V VP5 VP8 VP9	LABRADOR, CANADA ANGUILA, LEWARD IS MONTSERRAT, LEEWARD IS. BRITISH VIRGIN IS., LEEWARD IS TURKS & CAICOS ISLANDS. FALKLAND & BRITISH S. ATLANTIC IS BERMUDA.		7Q 7T-7Y 7Z 8J-8N 8P 8Q	MALAWI. ALGERIA. SAUDI ARABIA. JAPANESE SPECIAL STATIONS. BARBADOS. MALDIVE IS.	
HU HV HZ H4	EL SALVADOR. VATICAN CITY. SAUDI ARABIA. SOLOMON IS.	1 	VQ9 VR6 VR2,VS6 VU VY1,VY5 VY2	CHAGOS ARCHIPELAGO. PITCAIRN IS. HONG KONG INDIA. YUKON TERRITORY, CANADA. PRINCE EDWARD IS., CANADA.		9A 9F 9G 9H	GUYANA CROATIA ETHIOPIA GHANA MALTA	46 4642 1 210 301
IA IC IM<-IS< IT JA-JS JD1	TUSCAN ARCHIPELAGO, ITALY CAPRI & ISCHIA IS, ITALY SARDINIA, ITALY SICILY, ITALY JAPAN. OGASAWARA IS., JAPAN.		V2 V3 V4 V5 V6 V7 V8	ANTIGUA & BARBUDA, LEEWARD IS. BELIZE ST. KITTS-NEVIS, LEEWARD IS. NAMIBIA. MICRONESIA. MARSHALL ISLANDS. BRUNE!		9M6 9M8 9N	ZAMBIA. KUWAIT. SIERRA LEONE 4 MALAYSIA SABAH, MALAYSIA. SARAWAK, MALAYSIA. NEPAL.	
JT-JV JW JX JY J2	MONGOLIA SVALBARD IS, NORWAY JAN MAYEN IS, NORWAY JORDAN DJIBOUTI	37 49 29 185	XA-XI XP XQ XT	MEXICO GREENLAND CHILE BURKINA-FASO	1 99	9Q-9T 9U 9V 9X 9Y, 9Z	ZAIRE BURUNDI SINGAPORE RWANDA TRINIDAD & TOBAGO	

CENSUS OF U.S. AMATEURS BY STATE AND ZIP CODE This table, compiled from the 1996 North American Callbook, lists the current U.S. amateur radio licenses for each ZIP code prefix (the first three digits of the Zip code). Zip codes not shown have not been assigned by the U.S. Postal Service. The official two letter abbreviation is shown to the right of the state or territorial name.

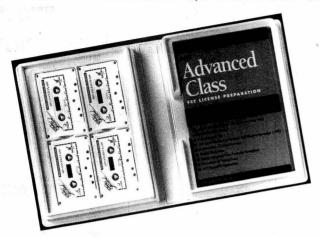
ALABAMA 1.47% OF U.S. AMATEUR POPULATION	945 6,136 946 613	311 4	527 454 528 263	015 905
ZIP 350 879 LICENSES 351 713 352 1,309	947 442 948 325 949 1,316	312 306 313 181 314 360 315 419	KANSAS KS 1.09% OF U.S. AMATEUR POPULATION	016 286 017 1,684 018 1,807 019 1,293
354 349 355 304 356 976 357 567	950 3,537 951 2,723 952 919 953 1,783	316 176 317 555 318 101 319 204	ZIP 660 1,061 LICENSES 661 277 662 902 664 241	020 1,023 021 2,710 022 27 023 784
358 1,092 359 608 360 329 361 384	954 1,796 955 640 956 3,434 957 433	GUAM GU 0.10% OF U.S. AMATEUR POPULATION ZIP 969 683 LICENSES	665 380 666 488 667 312 668 160	024 125 025 424 026 798
362 399 363 459 364 177	958 1,688 959 1,726 960 1,142	HAWAII HI 0.50% OF U.S. AMATEUR POPULATION	669 114 670 625 671 399	MICHIGAN MI 3.05% OF U.S. AMATEUR POPULATION
365 524 366 553 367 217 368 316	961 293 COLORADO CO 1.63% OF U.S. AMATEUR POPULATION	ZIP 967 2,267 LICENSES 968 1,192 IDAHO ID	672 950 673 263 674 481 675 320	ZIP 480 3,023 LICENSES 481 3,269 482 898 483 1,145
369 10 ALASKA AK 0.45% OF U.S. AMATEUR POPULATION	ZIP 800 1,596 LICENSES 801 1,274 802 1,585 803 622	0.53% OF U.S. AMATEUR POPULATION ZIP 832 356 LICENSES 833 280 834 529	676 187 677 85 678 218 679 44	484 1,167 485 469 486 1,005
ZIP 995 1,210 LICENSES 996 568 997 869	804 706 805 1,370 806 261	835 201 836 762 837 758	KENTUCKY KY 1.22% OF U.S. AMATEUR POPULATION	488 1,223 489 306 490 1,900
998 351 999 101 ARIZONA AZ	807 192 808 301 809 1,480 810 509	838 751 ILLINOIS IL 3.53% OF U.S. AMATEUR POPULATION	ZIP 400 459 LICENSES 401 286 402 1,453 403 647	491 357 492 852 493 675 494 1,255
2.05% OF U.S. AMATEUR POPULATION ZIP 850 2,761 LICENSES 852 3,561 853 2,084	811 122 812 285 813 171 814 186	ZIP 600 4,132 LICENSES 601 3,187 602 150 603 162	404 233 405 716 406 116 407 204	495 841 496 682 497 626 498 657
854 1 855 401 856 915	815 316 816 271	604 2,252 605 1,921 606 2,280	408 86 409 157 410 720	499 382 MINNESOTA MN
857 2,257 859 236 860 471 863 848	CONNECTICUT CT 1.34% OF U.S. AMATEUR POPULATION ZIP 060 1,879 LICENSES 061 646	607 27 609 243 610 723 611 552	411 449 412 81 413 55 414 20	1.55% OF U.S. AMATEUR POPULATION ZIP 550 1,004 LICENSES 551 1,654 552 2
864 627 865 35 ARKANSAS AR	062 420 063 861 064 2,351 065 451	612 514 613 380 614 399 615 624	415 209 416 170 417 66 418 45	553 1,457 554 2,253 556 62 557 524
0.91% OF U.S. AMATEUR POPULATION ZIP 716 212 LICENSES 717 210 718 149	066 336 067 776 068 1,361 069 208	616 455 617 522 618 730 619 236	420 565 421 345 422 198 423 359	558 386 559 808 560 513 561 150
719 518 720 745 721 682 722 530	DELAWARE DE 0.21% OF U.S. AMATEUR POPULATION ZIP 197 456 LICENSES	620 815 622 946 623 366 624 395	423 359 424 352 425 121 426 53 427 251	562 274 563 476 564 322 565 378
723 289 724 603 725 266	198 466 199 540	625 513 626 375 627 325	LOUISIANA LA 1.08% OF U.S. AMATEUR POPULATION	566 274 567 162
726 508 727 738 728 376 729 484	DIST. OF COLUMBIA DC 0.09% OF U.S. AMATEUR POPULATION ZIP 200 468 LICENSES 201 45	628 646 629 567 INDIANA IN	ZIP 700 1,077 701 583 703 303 704 758	MISSISSIPPI MS 0.66% OF U.S. AMATEUR POPULATION ZIP 386 378 LICENSES 387 130
CALIFORNIA CA 15.18% OF U.S. AMATEUR POPULATION ZIP 900 3,847 LICENSES	203 49 205 36 FLORIDA FL	2.20% OF U.S. AMATEUR POPULATION ZIP 460 1,146 LICENSES 461 1,133 462 1,813	705 657 706 328 707 641 708 831	388 514 389 98 390 317 391 439
901 1 902 4,131 903 164 904 430	6.10% OF U.S. AMATEUR POPULATION ZIP 320 1,622 LICENSES 321 841 322 1,630	463 1,357 464 166 465 1,159 466 361	710 391 711 636 712 567 713 310	392 346 393 324 394 660 395 930
905 800 906 2,244 907 2,611	323 698 324 759 325 2,020	467 944 468 948 469 1,067	714 355 MAINE ME	396 128 397 290
908 1,612 909 1 910 1,386 911 639	326 1,417 327 2,970 328 1,303 329 2,547	470 230 471 540 472 396 473 989	0.62% OF U.S. AMATEUR POPULATION ZIP 039 148 LICENSES 040 1,030 041 253	MISSOURI MO 1.81% OF U.S. AMATEUR POPULATION ZIP 630 1,534 LICENSES 631 1,729
912 740 913 4,588 914 828 915 492	330 3,436 331 4,128 332 46 333 1,802	474 677 475 390 476 334 477 398	042 459 043 308 044 549 045 225	633 819 634 188 635 152 636 199
916 508 917 5,444 918 216 919 599	334 3,085 335 2,419 336 1,155 337 1,035	478 500 479 669	046 391 047 250 048 166 049 523	637 225 638 165 639 177 640 1,471
920 4,325 921 4,012 922 1,456 923 4,424	338 1,347 339 2,161 340 148 342 1,412	1.01% OF U.S. AMATEUR POPULATION ZIP 500 477 501 381 502 321	MARYLAND MD 1.73% OF U.S. AMATEUR POPULATION ZIP 206 711 LICENSES	641 1,220 644 182 645 195 646 162
924 437 925 2,373 926 7,586 927 1,919	343 2 344 549 345 1 346 2,327	503 499 504 212 505 327 506 310	207 1,718 208 1,751 209 742 210 1,857	647 281 648 466 650 282 651 175
928 1,058 929 2 930 2,252	347 531 349 832	507 133 508 105 510 171	211 1,100 212 1,494 214 393	652 500 653 236 654 198
931 897 932 1,459 933 668 934 1,683	GEORGIA GA 2.03% OF U.S. AMATEUR POPULATION ZIP 300 2,587 LICENSES 301 1,698	511 231 512 47 513 182 514 68	215 284 216 363 -217 1,007 218 334	655 273 656 590 657 618 658 512
934 1,683 935 2,019 936 838 937 840 938 1	302 2,453 303 1,240 304 168 305 1,015	515 308 516 84 520 214 521 85	219 182 MASSACHUSETTS MA 2.30% OF U.S. AMATEUR POPULATION	MONTANA MT 0.40% OF U.S. AMATEUR POPULATION ZIP 590 192 LICENSES
939 840 940 3,716 941 1,087 943 531 944 371	306 531 307 632 308 210 309 327 310 853	520 214 521 85 522 306 523 466 524 559 525 309 526 484	ZIP 010 1,146 LICENSES 011 239 012 490 013 256 014 785	591 265 592 151 593 181 594 357 595 84
944 371	310 853	526 484	014 785	595 84

CENSUS OF U.S. AMATEURS BY STATE AND ZIP CODE

		· 用工作记录文明 17 /	The State of the State of Stat	N M C. A. C. S.
596 232 597 543 598 473 599 291	125 1,206 126 272 127 227 128 520 129 478	747 177 748 390 749 137 OREGON OR	374 508 375 0 376 1,225 377 1,073 378 1,502	239 153 240 890 241 498 242 544 243 413
NEBRASKA NE 0.59% OF U.S. AMATEUR POPULATION ZIP 680 435 LICENSES	130 1,175 131 514 132 570	1.79% OF U.S. AMATEUR POPULATION ZIP 970 2,284 971 1,053	379 1,225 380 523 381 1,607	244 379 245 1,071 246 198
681 997 683 176 684 170 685 702	133 461 134 689 135 175 136 612	972 2,391 973 1,806 974 2,051 975 1,142	382 244 383 568 384 255 385 404	VIRGIN ISLAND VI 0.05% OF US.S. AMATEUR POPULATION ZIP 008 359 LICENSES
686 187 687 299 688 339 689 192	137 495 138 576 139 269 140 1,263	976 506 977 561 978 543 979 55	TEXAS TX 5.91% OF U.S. AMATEUR POPULATION ZIP 750 4,184 LICENSES	WASHINGTON WA 3.41% OF U.S. AMATEUR POPULATION ZIP 980 4,877 LICENSES
690 80 691 266 692 29	140 1,203 141 596 142 1,014 143 120	PENNSYLVANIA PA 3.71% OF U.S. AMATEUR POPULATION	750 4,164 105 105 105 105 105 105 105 105 105 105	981 2,961 982 3,380 983 3,110
693 184 NEVADA NV	144 958 145 1,069 146 1,247	ZIP 150 1,243 LICENSES 151 843 152 1,378	754 746 755 341 756 656	984 1,133 985 1,609 986 1,775
0.56% OF U.S. AMATEUR POPULATION ZIP 890 678 LICENSES 891 1,404 893 25	147 479 148 857 149 153	153 356 154 311 155 158 156 689	757 723 758 272 759 401 760 2,686	987 66 988 690 989 744 990 398
894 792 895 676 897 246 898 86	NORTH CAROLINA NC 2.42% OF U.S. AMATEUR POPULATION ZIP 270 503 LICENSES 271 531 272 1.106	157 303 158 231 159 281 160 462 161 569	761 1,839 762 706 763 518 764 238 765 691	991 555 992 1,102 993 1,096 994 59
NEW HAMPSHIRE NH 0.68% OF U.S. AMATEUR POPULATION ZIP 030 1,742 LICENSES 031 429 032 620	273 597 274 596 275 1,521 276 1,056	162 155	766 337 767 335 768 182 769 302	WEST VIRGINIA WV 0.86% OF U.S. AMATEUR POPULATION ZIP 247 314 LICENSES 248 219 249 136
033 197 034 322 035 141 036 60	277 368 278 781 279 311 280 1,076 281 1,092	167 141 168 396 169 258 170 1,164	770 3,521 772 120 773 1,550 774 1,000 775 2,188	250 186 251 266 252 151 253 382
037 268 038 958	282 946 283 1,239 284 633	171 281 172 252 173 714	776 649 777 249 778 508	254 283 255 372 256 222
NEW JERSEY NJ 2.57% OF U.S. AMATEUR POPULATION ZIP 070 2,804 LICENSES 071 294 072 225	285 917 286 1,299 287 1,696 288 360 289 114	174 341 175 594 176 292 177 331 178 458	779 324 780 667 781 480 782 2,386 783 338	257 271 258 324 259 171 260 439 261 590
073 164 074 1,351 075 170 076 1,235	NORTH DAKOTA ND 0.25% OF U.S. AMATEUR POPULATION ZIP 580 150 LICENSES	178 458 179 225 180 956 181 312	784 541 785 711 786 1,098	263 331 264 192
076 1,235 077 1,564 078 1,037 079 697	ZIP 580 150 LICENSES 581 257 582 271 583 122	182 285 183 353 184 455 185 198	787 1,695 788 240 789 154 790 396	265 449 266 119 267 127 268 139
080 2,706 081 251 082 578 083 525 084 76	584 138 585 328 586 165 587 211 588 54	186 448 187 253 188 304 189 1,038 190 2,875	791 367 792 66 793 273 794 508 795 225	WISCONSIN WI 1.51% OF U.S. AMATEUR POPULATION ZIP 530 1,193 LICENSES 531 1,191
085 629 086 494 087 1,060 088 1,778	OHIO OH 4.53% OF U.S. AMATEUR POPULATION ZIP 430 1,675 LICENSES	191 1,448 192 2 193 900 194 1,086	796 364 797 783 798 111 799 964	532 1,256 534 292 535 828 537 593
089 115 NEW MEXICO NM	431 795 432 1,470 433 553	195 359 196 336	UTAH 1.0% OF U.S. AMATEUR POPULATION	538 56 539 390 540 233
0.70% OF U.S. AMATEUR POPULATION ZIP 870 390 LICENSES 871 1,656 873 56 874 157	434 424 435 804 436 852 437 459 438 187	PUERTO RICO PR 1.31% OF U.S. AMATEUR POPULATION ZIP 006 4,584 LICENSES 007 2,457 008 359	ZIP 840 2,774 LICENSES 841 1,538 843 610 844 365 845 185	541 395 542 266 543 313 544 939 545 305
875 656 877 52 878 109	439 613 440 2,630 441 2,595	009 1,652 RHODE ISLAND RI	846 847 928 847 521	546 337 547 650 548 407
879 57 880 847 881 133	442 1,698 443 751 444 1,076	0.38% OF U.S. AMATEUR POPULATION ZIP 028 1,967 LICENSES 029 641	VERMONT VT 0.31% OF U.S. AMATEUR POPULATION ZIP 050 231 LICENSES	549 812 WYOMING WY
882 373 883 300 884 27	445 449 446 1,169 447 541	SOUTH CAROLINA SC 0.90% OF U.S. AMATEUR POPULATION	051 117 052 146 053 111	0.23% OF U.S. AMATEUR POPULATION ZIP 820 460 LICENSES 821 2
NEW YORK NY 5.31% OF U.S. AMATEUR POPULATION ZIP 100 1,220 LICENSES	448 842 449 343 450 1,668 451 989	ZIP 290 507 LICENSES 291 544 292 428 293 559	054 847 055 1 056 294 057 224	822 97 823 69 824 127 825 94
101 68 102 15 103 1,654	452 2,273 453 1,985 454 1,817	294 983 295 548 296 1,675	058 059 160 059 3	826 256 827 103 828 115
104 862 105 1,355 106 112	455 261 456 928 457 462	297 522 298 317 299 168	VIRGINIA 2.38% OF U.S. AMATEUR POPULATION ZIP 220 1,993 LICENSES	829 178 830 37 831 54
107 366 108 122 109 1,030	458 1,021 OKLAHOMA OK	SOUTH DAKOTA SD 0.22% OF U.S. AMATEUR POPULATION	221 1,971 222 453 223 652	APO FPO (MILITARY) 0.18% OF U.S. AMATEUR POPULATION
110 574 111 151 112 1,660 113 1,231	1.30% OF U.S. AMATEUR POPULATION ZIP 730 1,619 LICENSES 731 1,503 734 174	ZIP 570 328 LICENSES 571 193 572 199 573 148	224 346 225 349 226 402 227 158	ZIP 090 157 LICENSES 091 146 092 56 093 7
114 755 115 1,399 116 124	735 621 736 120 737 318	574 132 575 99 576 28	228 289 229 516 230 356	094 094 51 095 64 096 43
117 4,011 118 243 119 650	738 108 739 69 740 1,391	577 409 TENNESSEE TN	231 573 232 933 233 479	097 30 098 24 340 148
120 1,038 121 727 122 301	741 1,186 743 317 744 415	1.95% OF U.S. AMATEUR POPULATION ZIP 370 1,182 LICENSES 371 771	234 1,060 235 396 236 853	962 79 963 183 964 14
123 559 124 512	745 229 746 179	372 697 373 1,675	237 177 238 363	965 89 966 123

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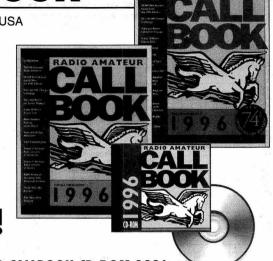
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INTERNATIONAL "Q" SIGNALS

IATIONS	QUESTIONS	ANSWERS OR ADVICE	ABBRE- VIATIONS	QUESTIONS	ANSWERS OR ADVICE
RA RB	What is the name of your station? = 258. How far approximately are you from	The name of my station is The approximate distance between	QSY	Shall I change to transmission on another frequency?	Change to transmission on another frequency (or onkHz (or MHz).
1D	my station?	our stations isnautical miles (or kilometers).	QSZ	Shall I send each word or group or more than once?	Send each word or group twice (ortimes)
RD	Where are you bound and where are you from?	I am bound forfrom	QTA	Shall I cancel telegram number as if it had not been sent?	Cancel telegram numberas if it had not been sent.
G	Will you tell me my exact frequency (or that of)?	Your exact frequency (or that of) is kHz (or MHz).	QTB	Do you agree with my counting of words?	I do not agree with your counting of words. I will repeat the first letter or digit of each word or
lH.	Does my frequency vary?	Your frequency varies.			group.
RI	How is the tone of my transmission?	The tone of your transmission is 1. Good 2. Variable	QTC QTE	How many telegrams have you to send?	I havetelegrams for you (or for). Your TRUE bearing from me is
K	What is the readability of my	3. Bad The readability of your signals (or	uiE	What is my TRUE bearing from you?	degrees (athours).
in,	signals (or those of)?	those of)is 1. Unreadable. 2. Readable now and then. 3. Readable, but with difficulty. 4. Readable.		or What is my TRUE bearing from (call sign)?	or Your TRUE bearing from(call sign) wasdegrees (athours). or
L	Are you busy?	5. Perfectly readable. Lam busy (or Lam busy with).	4	What is the TRUE bearing of (call sign) from(call sign)?	The TRUE bearing of(call sign) from (call sign) was degrees (athours).
	Assumed being interfered with 0	Please do not interfere.	QTG	Will you send two dashes of ten	am going to send two dashes of
M N	Are you being interfered with?	I am being interfered with.	3	seconds each followed by your call sign (repeatedtimes)	ten seconds each followed by my call sign (repeatedtimes)[on
0	Are you troubled by static? Shall I increase power?	I am troubled by static.	30 10 Jan	[onkHz (or MHz)]? or Will you request, to send two	kHz (or MHz)]. or I have requested, to send two
U P	And the state of t	Increase power	rys Par	Will you requestto send two dashes of then seconds followed by his call sign (repeated	I have requestedto send two dashes of ten seconds followed by
Q Q	Shall I decrease power? Shall I send faster?	Decrease power. Send faster (words per minute)	1 1000000	times) onkHz (or MHz)]?	his call sign (repeatedtimes) onkHz (or MHz)].
R .	Are you ready for automatic operation?	Send faster (words per minute). I am ready for automatic operation. Send atwords per minute.	QTH	What is your position in latitude and longitude (or according to any other indication)?	My position islatitude longitude (or according to any other indication).
S	Shall I send more slowly?	Send more slowly (words per	QTI	What is your TRUE track?	My TRUE track isdegrees.
Т	Shall I stop sending?	minute).	QTJ	What is your speed?	My speed isknots (or kilometers per hour).
U	Have you anything for me?	Stop sending. I have nothing for you.	QTL	What is your TRUE heading?	My TRUE heading isdegrees.
<i>V</i>	Are you ready?	I am ready.	QTN	At what time did you depart	I departed from(place) at
N	Shall I informthat you are	Please informthat I am calling	Settle	from(place)?	hours.
(calling him onkHz (or MHz)? When will you call me again?	him onkHz (or MHz). I will call you again athours	ΩТО	Have you left dock (or port)? or Are you airborne?	I have left dock (or port). or I am airborne.
1	What is my turn?	[onkHz (or MHz)]. Your turn is Number(relates to communication.)	QTP	Are you going to enter dock (or port)? or	I am going to enter dock (or port).
7	Who is calling me?	You are being called by[on	100	Are you going to alight (or land)?	I am going to alight (or land).
Ą	What is the strength of my singals	kHz (or MHz)]. The strength of your signals (or those of)is	ата	Can you communicate with my station by means of the International Code of Signals?	I am going to communicate with your station by means of the International Code of Signals.
	(or those of)?	Scarcely perceptible. Weak.	QTR	What is the correct time?	The correct time ishours.
		4. Good. 5. Very Good.	QTS	Will you send your call sign for minute(s) now (or athours) [onkHz (or MHz)] so that your	I will send my call sign for minute(s) now (or athours) [on kHz (or MHz)] so that my
В	Are my signals fading?	Your signals are fading.	OTIU	frequency may be measured?	frequency may be measured.
D G	Is my keying defective?	Your keying is defective. Sendtelegrams at a time.	QTV	What are the hours during which your station is open?	My station is open fromto hours.
J	Shall I sendtelegrams at a time? What is the charge to be collected	The charge to be collected per word	uiv.	Shall I stand guard for you on the frequency ofkHz (or MHz) (fromtohours)?	Stand guard for me on the frequency ofkHz (or MHz) (fromto hours).
	per word toincluding your internal telegraph charge?	toincluding my internal tele- graph charge isfrancs.	QTX	Will you keep your station open for further communication with me until further notice (or until	I will keep my station open for further communication with you until further notice (or until
K	Can you hear me between your signals?	I can hear you between my signals.	0114	hours)?	hours).
L	Can you acknowledge receipt?	I am acknowledging receipt.	QUA	Have you news of(call sign)?	Here is news of(call sign).
M janu,	Shall I repeat the last telegram which I send you, or some previous telegram?	Repeat the last telegram which you sent me [or telegram(s) number(s)].	QUB	Can you give me, in the following order, information concerning: visibility, height of clouds, direction and velocity of	Here is the information requested
V	Did you hear me [or(call sign)] onkHz (or MHz)?	I did hear you [or(call sign)] onkHz (or MHz)?	-	ground wind at(place of observation)?	
0	Can you communicate withdirect or by relay?	I can communicate withdirect (or by relay through).	QUC	What is the number (or other inducation of the last message you received from me [or from(call sign)]?	The number (or other indication) of the last message I received from you [or from(call sign)] is
•	Will you relay tofree of charge?	I will relay tofree of charge.	QUD	sign)]? Have you received the urgency	have received the urgency clane!
Q	Have you a doctor on board [or is (name of person) on board]?	I have a doctor on board [or (name of person) is on board].	QUD	signal sent by(call sign of mobile station)?	I have received the urgency signal sent by(call sign of mobile station) athours.
U .	Shall I send or reply on this frequency [or onkHz (or MHz)] (with emissions of class)?	Send or reply on this frequency [or onkHz (or MHz)] with emissions of class).	QUF	Have you received the distress signal sent by(call sign of mobile station)?	I have received the distress signal sent by(call sign of mobile station) athours.
V	Shall I send a series of V's on this frequency [orkHz(or MHz)]?	Send a series of V's on this frequency [orkHz (or MHz)].	QUG	Will you be forced to alight (or land)?	I am forced to alight (or land) immediately.
W	Will you send on this frequency [or onkHz (or MHz)] (with emissions of class)?	I am going to send on this frequency [or onkHz (or MHz)] (with emissions of class).			I shall be forced to alight (or land) at(position or place).
	UI Glass) !	(With diffusions of class).	QUH	Will you give me the present	The present barometric pressure at

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Morris Plains, NJ 07950

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Fourth Call Area, All Single Letter Prefixes: Mecklenburg A.R.S. Box DX, Charlotte, NC 28220, USA

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Zero Call Area: All Calls W0 QSL Bureau, P.O. Box 4798 Overland Park, KS 66204

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Bobillier, Box 91294, Bogota, Colombia OSI via N4WOR Gene Shannon B., Box 27744, Bogota, Colombia Galen Ray Stutzman, Box 27744, Bogota, Colombia VE3/JA3PJM Ryo Onishi, 15 Mullet Road, Willowdale, Ontario M2M 2A7, Canada HK/HB0DX VE3/OK3CAW Marvin Hivavac, 147 Mavety St, Toronto, Ontario, Canada M6P 2L8 Jan Stanovnik, 15 Vicoralink Way Apt. 1805, North York, Ontario M3C 1A6 HK/KC4AN Raymond S. Rising, Instituto Linguistico de Verano, Box 27744, Bogota, Colombia HK/K0LWJ VE3/S52NN HK/N4HUF Macon G. Hare, Calle 43 31-29, Villavicencio, Colombia VP2/W6KG YASME, Box 2025, Castro Valley, CA 94546, USA C. Otto Ringheim, Box 2195, Bucaramanga, Colombia VP2E/AA1M HK/SM5HV Robert Reiser, QSL via AA1M HK/W6QL YASME, Box 2025, Castro Valley, CA 94546, USA VP2E/JH4IFF Mitsumasa "Mitsu" Uto, QSL via JH4IFF HK/WA2ITL Jonathan Rathjen, Instituto Linguistico de Verano, Box 27744, Bogota, Colombia VP2E/KA3DBN John Rouse, QSL via KA3DBN HK/WA3H0V Serge S. 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Box 6149, Cali, Columbia Robert Reiman, QSL via N2FBB Terrell Moore, QSL via N4BWS VP2E/N2FBB HK5/HK3NPE VP2E/N4BWS Rene A. Orozco, P.O. Box 6149, Cali, Columbia VP2E/W20RA Joseph D. Duffin, QSL via W20RA HK5/HK4LPI Maria Estela De Escobar, P.O. Box 6149, Cali, Columbia HK5/HK6BJF Luis Enrique Patiro, P.O. Box 6149, Cali, Columbia VP2E/W2PAU Edwin M. Brown, QSL via W2PAU HK5/HK60QI Gonzalo Mejia, P.O. Box 6149, Cali, Columbia V2/KA2DIV Grant Mitchell, QSL via KA2DIV HK5/HK8COO Edmund Burbano, P.O. Box 6149, Cali, Columbia V2/0E2CHN Christian Hohenwallner, QSL via OE2EJN W2CIH/VE3 YL/KAORYS HK5/HK8NZG Edgardo Vera, P.O. Box 6149, Cali, Columbia Norman A. Champness, 216 Raymond Ave., London, Ontario, Canada N6A 2N1 Fabio Quintero, P.O. Box 6149, Cali, Columbia Arnold Pessoa, P.O. Box 6149, Cali, Columbia Hernando Cardona, P.O. Box 6149, Cali, Columbia HK5/HK9CCT Haralds Dreimanis, QSL via KAORYS YS/WD4IFN HK5/KR4YGO Herman H. Franke, QSL via WD4IFN HK5/KC4NEB YV/HI8CVR Nidia Virella, Box 20, Punto Fijo 4102, Falcon, Venezuela Alfonso Pastrana, P.O. Box 6149, Cali, Columbia HK5/N6NVK YV/K3U00 Mike Manafo, QSL via W1AF

YV/KD4AHI

Marie C. Parraga, Box 2279, Maracay 2101-A, Venezuela

RADIO AMATEURS OPERATING WITH RECIPROCAL LICENSES

Foreign

YV/K4MUP YV/OA4AUN YV/W8PLV

YV5/WS4F

ZP/W6QL

ZB2/G4HUA

ZP9/DL3R0

ZS/W6KG

ZS3/W6QL Z2/W6QL

4F/KE6PU

5N/EL2AY

5N/FC1LIA

5N/G4W0B

5N/G8WTR

5N/HB9CUZ

5N/HB9KC

5N/I1CSJ

5N/IK1FOS

5N/IK7EJX

5N/KB7ZT

5N/KC7RD

5N/N4NW

5N/OE1YDA

5N/0E5SYM

5N/OF5WRI

5N/OK1AFX

5N/0K1D.IO

5N/OK1ZKA

5N/ON7VD

5N/PBOACE

5N/TU2HS

5N/TU2NL

5N/TZ6WC

5N/VY1AA

5N/W4LZZ

5N/WOPBV

5N/YU3IK

5N/YU7SC

5N/4X4FF

5N/5B4MV

5N/9G1JH

5N9/LU9EAG

6Y/KB4ZBK 6Y/KC4ADR

6Y/W3FAJ

6Y/OE2CHN

8R/HI8XAD

8R/LU9CAM

8R/W1CDC

8R/N3BBT

8R/WA4YYG

8R1/DL9MEU

8R1/G4AAL

8R1/KA8AXQ 8R1/KB2LVN

8R1/PE1MIY

8R1/PE1NEF

8R1/PE10JM

5N/LU9EAG

4S/JA8DOK

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4S7/JA4FM Akihiro Ikeda, QSL via JA1FHK S7/DF5UG H.H. Ehlers, 347 Main Street, Negombo, Sri Lanka 4S/DJ8CV Karl J. Tipps, c/o S. Ranasinghe, 104 Allen Ave., Dehiwawla, Sri Lanka

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Alex M. Kasevich, QSL via AB1U

Newton H. Jarvis, 301 New Garden St., Georgetown, Guyana Vernon A. Chase, 230 South Rd., Bourda, Georgetown, Guyana Mr. Grogor Fischer, 109 Cane View Avenue, South Ruimveldt

Gardens Gr. Georgetown, Guyana

Mr. John F. Layton, British High Commission, 44 Main Street, Georgetown, Guyana Mr. Paul Downey, 73 Section M Campbellville, Georgetown, Guyana

Ms. Catherine Taylor, Hauraruni Village, Linden Highway, Guyana Mr. Willem F. Oerlemans, 24 North Road, Bourda, Georgetown, Guyana H. Krottji Voorloop, 39 Robb Street, Lacytown, Georgetown, Guyana Mr. Johann A. Krottje, 39 Robb Street, Lacytown, Georgetown, Guyana

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9M2/KA1BWF 9N/W6KG 9N/W6QL 9Y/J6LAD 9Y/OE2CHN 9Y4/JA2EZD

9Y4/KN4TX

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Tony Smithson, POB 4055, Mayaro, Trinidad and Tobago, West Indies

United States

W1/G4DZC W1/LU9DDN W1/PU1AII

W1/PII1AKE

W1/PU1AKQ

W1/VK2JBM

W2/CE3CRA

W2/F2YS

W2/HI3JTE

W2/HI3VAR

W2/HI8CAO

W2/HK1AHR

W2/JS1DLC

W2/VK2DXI

W2/YU2WX

W2/YZ7AA

W2/4X6MQ

W3/HC4CP

W4/DJ3YT

W4/DJ8XU

W4/FA4DD.I

W4/HI8RFA

W4/HK3GZB

W4/HK3HCJ W4/LU4DUZ

W4/0Z7SM

W4/TF3KX

W4/YS1JCR

W4/6Y5AM

W4/PY2ZEA

W4/YS1AF

W4/4X1AD

W6/CX7CB

W6/G3MHV

W6/G3NBZ

W7/DL1UF

VE2AQS/WG

VF3SUN/W6

VE7GDM/W0

W3/SM6NCT

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M. Rozbicki, QSL via VK2DXI

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W6/OE2CHN W6/OE6BVG Walter Brenner, QSL via DJ0FX W6/TG9EM

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KH8/0E2CHN Christian Hohenwallner, QSL via OE2VEL W8/JR1C00 Hiroshi Shimizu, 21209 Bayside, ST. Claire Shores, MI 48081, USA QSL via JG1RVN

KH0/JG1RVN KH0/OE6BVG Walter Brenner, QSL via DJ0FX

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J. Donald Boudreau, Box 260, Hurricane Creek Estates, Anna, TX 75003, USA Peter R. Jennings, Box 336, Ben Lomond, CA 95005, USA

Doug McGill, 2508 Century Road, Omaha, NE 68123, USA

PREFIXES – BY COUNTRIES – 40 Zone

500	1 Zone Prefi
ghanistan galega & St Brandon Is	21
and isaska	5OH
bania	15 7
geria nsterdam & St Paul Isndaman & Nicobar Is	33
ndaman & Nicohar Is	26 VI
ndorra	14
ngolanobon Is (Pagalu)	20
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menia	۷
ruba	9P
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ustralia	32 ZL 29,30 V 15
ustria ves Is	150
zerbaijan	Z14J,4l
zores is	14CI
ahama Is	8C
ahrainahrain Bhrain	21A 31KH
aker & Howland Is	31KH 14EA6-EH
anaba	31
angladesharbados	31
ardados	8
elau	27KC
elgium	27KC 14ON-O
elizeenin	7V: 35
ermuda Is	5VP:
nutan	22A
oliviaosnia & Herzegovina	10
otswana	38A
ouvet Is	383
razilrunei	11PP-P'
ulgaria Jrkina-Faso	20L
ırkina-Faso	28 V 20 L 35 X 36 90
ırundi	
ambodia	26XI
ameroon	36
anadaanary Is	33 EA8-FH
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apri Is	15
ayman Is	8 7
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olombia	29 VK9 9 HJ,HI
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/prus	205B,ZC
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anmark	14
enmarkesecheo Is	140. 8KP
ibouti	37J
odecanese Is ominican Republic	20SV
ster Is	12CE 10HC,HI
cuador	10HC,HI
jyptSalvador	7. Y
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	CQ Zone	Prefix
Guyana		8R
HawaiiHaiti	31 8	KH6
Heard IsHonduras	39	VKO
Hong Kong Hungary	24 15	HQ,HR VS6,VR2 HA,HG
Iceland	40	TF
IndiaIndonesia		VU YR-YH
Iran	21	EP-EQ
Iraq Ireland	14	YI EI.EJ
IschiaIsle of Man	15	
Israel	20	4X,4Z
Italy ITU Geneva Ivory Coast	15,33	4U
Jamaica		6Y
Jan Mayen Is	40	JX
Japan, US Personnel in	25	JA-JS KA
Jarvis Is Jersey	31	KH5 GJ,GH
Johnston Is	31	KH3
Jordan	20	JÝ
Juan de Nova Is Juan Fernandez Is	12	CEO
Kaliningrad	15	UA2
Kazakhstan Kenya	17	UL 5Y,5Z
Kerguelen Is	39	F <u>T</u> 8X
Kermadec Is	32	57,52 FT8X ZL7 KH5K T32 T31
Kiribati,East Kiribati,Central Kiribati,West	31	<u></u>
Kiribati, West	31	131 T30
Kure Is	01	
Kuwait Kyrgyzstan	17	9K
Labrador (Canada)	2	V02
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Lampedusa Is	26	IG XW YL,UQ
Latvia Lebanon	15	YL,UQ
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Anguilla	.:. 8 8	VP2E
Anguilla	8	V2 VP2V VP2M
Montserrat St Kitts, Nevis	8 8	VP2M
Lesotho	38	
Liberia Libya	35	5A
Liechtenstein	14	HB0 LY,UP
Lithuania Lord Howe Is	30	VK9L
Luxembourg		LX
Macao	24	XX9 Z3,4N5,YU5
Macedonia Macquarie Is	30	VK0
MadagascarMaddalena Is	39	5R,5S
Madeira le	33	
Malaysia,East Malaysia,West	28	9N16,9N18
Malawi Maldive Is	3/	7Q
Mali	35	T7
Malta Malpelo	15 9	9H HK0
Malyj Vysotskij Is	16	4J1,R1MV
Manihiki	32	ZK1
Marion Is	38	ZS8
Market Reef Marshall Is	31	0J0 V7
Martinique	8	FM
Mauritius	39	5T
Mayotte	39	FH VK9M XA-XI
IVIEXICO	6	XA-XI
Micronesia Midway Is	27 31	V6 KH4 JD1
Midway Is Minami-Tori-Shima Moldova	16	ED
Monaco	14	3A
Mongolia	23	3A .JT-JV .CN .SV/A
Mount Athos	20	SV/A
Mozambique Myanmar	26	
Namibia		V5
Nauru Navassa Is	31	V5
Nenal	22	KP19NPA-PI
Netherlands Netherlands Antilles (Bonaire, Curacao)	14	PA-PI
(Bonaire, Curacao)	9	PJ2,4,9
New Caledonia Newfoundland (Canada)	32	
New Zealand	32	V01
NicaraguaNiger	7 35	YN
Niger	35	5N,50 ZK2
Nive Is Norfolk Is	32	VK9N
Norfolk Is Northern Ireland Norway	14	GI,GN LA-LN
Ogasawara Is Okinawa (Ryukyu Is)	25	JD1 JR6 A4
Uman	21	
Pakistan Palmyra Is	21	AP-AS
Panama	7	KH5
Papua New Guinea	40	P2

	Q Zone	Prefix
Paraguay Peru	10	OA-OC
Peru Peter I Is	12	DU-DZ
Philippines		DU-DZ
Pitcairn Is	32	VHb
Portugal	14	CT
Portugal Prince Edward Is (Canada) Prince Edward Is	5	VR6 SN-SR CT VE1,VY2 ZS8 KP4
uerto Rico	8	KP4
atar		A7
eunion Isevilla Gigedo Is	6	XA4-XI4
odriquez Is	39	3B9
lomanialota ls		
Rotuma	32	3D2
wandaussia, Asiatic	36	9X
	10-19,23	0.RA-RZ
lussia, European	16	
aba Is		PJ
ahah	28	9M6
able Ist Barthelemy	0	CY0
t Helena Is	36	ZD7
Martin Is	8	FJ,FS
t Paul ISt Paul Rocks	11	PPO-PYO
t Paul Is t Peter & St Paul Rocks t Pierre & Miquelon Isaipan Is	5	FP
aipan Is	27	FJ,FS FJ,FS CY9 PP0-PY0 FP KH0 KH8
amoa Western		
amoa, Americanamoa, Westernan Andres & Providencia Is	7	HK0
an Felix Isan Marinoao Tome & Principeao	12	
ao Tome & Princine	36	
arawak	28	
ardiniaaudi Arabia	15	IM0,ISQ
cotland	14	
enegaleychelles	35	6V,6W
eychellesicily	39	S7
iorra I aona	25	91
ingapore	28	9V
int Eustatius	8	P.J
lovak Republic	15	S5,YU3
10veilla	10	S5,YU3
olomon Isomalia	37	H4
outh Africa, Rep of	38	ZR-ZU
outh Africa, Rep of	13	VP8
outh Orkney Is	13	HL
outh Orkney Isouth Sandwich Is	13	LU,VP8
outh Shetland Is	13HF	0,4K1,CE9,LU,VP8
outhern Sudanov Mil Order of Malta	14	
painpratly Isri Lanka	14	EA-EH
pratly Is	26	4P,4S
udan	34	ST
urinam	0	D7
valbard Iswan Is	40	JW HR0 3DA SA-SM
waii iswaii iswaii is	38	3DA
weden	14	SA-SM
witzerlandvriavria	20	HB
aiwan	24	B)
aiwanajikistan	17	BV
anzania	37	5H-5I
hailand	26	HS
	35	5\/
nkelau Is	31	ZK3
onga Is indade & Martim Vaz Is inidad & Tobago istan da Cunha & Gough Is	32	ZK3 A3
rinidad & Tobago	9	9Y 97
istan da Cunha & Gough Is	38	
omelin Is		FR/1
ırkey	20	3\ TA-TC
ırkmenistan	17	EZ
ırks & Caicos Isıvalu Is	31	VP5
nanda	37	
ganda kraine nited Arab Emirates nited Nations HQ nited States of America	16	UR-UZ,EM-EC
nited Arab Emirates		
nited States of America	1,3,4,	
	5,31	
ruguay zbekistananuatu	13	CV-CX
anuatu	32	Y.
atican	15	HV
enezuelaietnam	26	3W,X\
irgin Is	8	KP2
/ake Is	31	кно
/ales/allis & Futuna Is	14	KH9
/allis & Futuna Is	30	EW
/alvis Bay/lestern Sahara	33	ZS9 S0 VK9W
/IIIIS IS	30	VK9W
Vindward Is		
DominicaGrenada	8	J7
St Lucia	8	J6
St Vincent	8	8L
emen	21,37	70
ugoslavia	15	70 YT,YU,YZ VY1
ukon Tarritani (Canada)		VY1
aire	36	9Q-9T
ugoslaviaukon Territory (Canada)aireaireambia anbiaanpiar (Tanzania)	36	9Q-9T 9I,9J 5H1

INTERNATIONAL RADIO AMATEUR PREFIXES

The following prefixes are listed in alphabetical order for convenience in identifying the country when DX calls are heard.

A2 A3	United States of Ameri Pakists Botswan Tony Om Bhut United Arab Emirat Qaba Bahra
A4	Oma
A5	
A7	Qat
49	Bahra
	TaiwChi
3Y.BT	Chi
CA,CE	E9AA,AMChilean Antarctica, Tierra E9,LU,VP8,HF0,4K1, South Shetbard E0Easter E0
C	E9AA,AM
Ç	E9,LU,VP8,HF0,4K1,South Shetland
C	E0Easter
Č	EOZJuan Fernandez
CM,CO	
OP	Boliv
T	
Č	UAzores
CV-CX	Urugu
YO	Sable Is (Canad
22	
25 25	Andor
26	U. Azores
JU-DZ	Philippin
)4	Ango Cape Ver Comore
06	Comor
A-EH	Spa
E	A6Balearic
F	AG Balearic A8-EH8 Canary A9-EH9 Ceuta & Meli
EI,EJ	lrelar
b	JOAran Armen
1	I iher
M-E0	Ukrai Ira Moldo
R	Moldo
·S	Eston
III-EW	Ethiop Beları
X	Kyrgyzsta
7	Kyrgyzst Tajikist Turkmenist
F F F F	France
F	R/T Tromelin
F	SSt Martin
F	T8X Kerguelan
F	T8Y French Antarctic
F	W
F	YFrench Guiai
GX	Englar
G	D. Isle of Mi I,GN. Northern Irelar J,GH. Jersi
G	J,GHJersi
G	S.GM Scotlar P.GU Bailiwick of Guerns W.GC Wal
G	W,GCWali
IB	
1B0	Liechtenste
. Н	D8
H	DB. Galapagos Ha Dominican Republ Colomb K0. Bajo Nuevo, Malpelo, S. Andres, Providencia South Kon North Kor
J,HK	
TANK TANK	KOBajo Nuevo Malpelo, Sa
Н	Andres, Providencia
H 	
H M	North Kor
IN HP	Panan
10,HP 1Q,HR	Panan Hondura
10,HP 10,HR 15 10 17 18 18 18	Panan Panan R0 Swan Thalial El Salvad Vatican Ci Saudi Arab Solomon
10,HP 10,HR 15 10 17 17 18 18	Panan Panan R0 Swan Thalial El Salvad Vatican Ci Saudi Arab Solomon
10,HP 10,HR 15 10 17 17 18 18	Panan Panan R0 Swan Thalial El Salvad Vatican Ci Saudi Arab Solomon
HÖ,HP HQ,HR HS HU HV HZ H4 IA	Panan Pana
HÖ,HP HQ,HR HS HU HV HZ H4 IA	Panan Pana
10,HP 10,HP 11,HS 11,HS 11,HS 12,HS 14,HS 16,HS	Panan Pana
HO, HP HO, HP HO, HP HO, HP HO IN	Panan
HO, HP HO, HP HO, HP HO, HP HO IN	Panan
HO, HP HO, HP HO, HP HO, HP HO IN	Panan
HO, HP HO, HP HO, HP HO, HP HO IN	South Korn North Korn North Korn Panar Panar

J5	Jord Djibo Grena Guinea-Biss
J6	St Luc Domini
J8	
K	KA United States of American KC4 U.S. Personnel in Japa KC6 U.S. Antarctic KC6 Western Caroline Is) Bel KG4 Guantanamo B KH1 Baker & Howland KH2 Guantanamo B KH3 Guantanamo B KH4 Guantanamo B
	KAU.S.Personnel in Jap. KC4U.S.Antarcti
	KC6Western Caroline Is) Bel
	KH1 Baker & Howland
	KH2 Gua KH3 Johnston
	KH2 Gua KH3 Johnston KH4 Midway KH5 Jarvis & Palmyra KH5K Kingman Re
	KH5K Kingman Re
	Name
	KH8American Sam
	KHO Mariana
	NC/ Pilate KP1 Navassa KP2 Virgin KP4 Puerto Ri KP5 Desecheo
LA-LN	Norw
LO-LW	
LX	Luxembou
LZ	
	E-Fair
OD	Pe Leban
0E	
	OHO Aland
OK-OL	PP PP PP PP PP PP PP P
ON-OT	Slovak Repub Belgiu
OX,OZ	Denma
01	raio
PA-PI. PJ	
PP-PY	Bra Brando de Moronba
	PPO-PYOSt Peter & St Paul Roc
P7	PP0-PY0Trindade & Martim Vaz Surina
P2 P4	Papua New Guin
	Russ
SA-SM	Swed
SN-SR ST	Sved ————————————————————————————————————
SII	STOSouthern Sud
SU SV-SZ	STO Southern Sud Egy Gree
SV-SZ	SV5. Dodecanese
SV-SZ	SV5. Dodecanese
SU SV-SZ	SV5. Dodecanese
SV-SZ	SV5. Dodecanese
SV-SZ	STO Southern Sud. Egy Egy SV5 Dodecaness SV9 Cr Banglade Slover Singapo Seychell Sao Tome & Prince Western Saha
SU SV-SZ S2 S5 S6 S7 S9 TA-TC .	Egy Sys Gree
SU SV-SZ S2 S5 S6 S7 S9 TA-TC. TD.TG	Egy SV5 Gree Gr
SU SV-SZ S2 S5 S6 S7 S9 TA-TC. TD,TG	Egy SV5 Gree Gr
SU SV-SZ S2 S5 S6 S7 S9 TA-TC. TD,TG	Egy SV5 Gree Gr
SU SV-SZ S2 S5 S6 S7 S9 TA-TC. TD,TG	Egy SV5 Gree Gr
SU	Egy
SUSV-SZ SS2SS6SS6SS6SS9SS9SS9SS9SS9SS9TA_TCTD_,TGTT_,TETT_,T	Egy
SV-SZ SS2 SS5 SS6 SS7 SS9 SS0 TA-TC. TJ. TT, TT, TT, TT, TT, TT, TT, TT, TT, TT	Egy
SUSV-SZ S2SS5SS6SS7SS9SS9TA-TCTD.TG TTD.TG TTT.TT.TT.TT.TT.TT.TT.TT.TT.TT.TT.TT.TT	Egy
SV-SZ S2S55S9 S6S7S9 S0TA-TCTD.TGTTH.TT.TTH.TT.TT.TTH.TT.TT.TT.TT.TT.TT	Egy
SU	Egy
SU-SV-SZ S2-S5-S5-S6-S7-S9-S9-S0-TA-TCL-TF-TI-TT-TT-TT-TT-TT-TT-TT-TT-TT-TT-TT-TT-	Egy
SUSV-SZ S2SS.SS.SS.SS.SS.SS.SS.SS.SS.SS.SS.S	Egy
SU.SV-SZ S2.SS.SS.SS.SS.SS.SS.SS.SS.SS.SS.SS.SS.S	Egy

VY1	Yukon Territory (Canada) Antigua & Barbuda Belize
V3	St Kitts & Nevis
V5 V6 V7 V8	Micronesia
W	United States of America
XA-XI XA4-XI4	Mexico
XTXA4-XI4	Burkina Faso
XU	Gambodia
XV XW	Laos
XV XW XX9 XY,XZ	Macao Myanmar
YA YВ-YН YI	Afghanistan Indonesia Iraq
YJYK	Vanuatu
YNYO-YR	Nicaragua Romania
YS	El Salvador
YV-YY	Venezuela
YL YN YO-YR YS YT-YU,YZ YV-YY Y2-Y9	Aves Is Germany
ZA ZB2 ZC4 ZC7 ZC7 ZD7 ZD8 ZD8 ZD9 Tri ZF ZK1 ZK2 ZK3 ZK2 ZK3 ZK2 ZK3 ZK3 ZL ZR	Albania
ZB2ZC4	Gibraltar Cyprus (Br. Forces)
ZD7	St Helena Is
ZD9Tri	stan da Cunha & Gough Is
ZK1	Cook & Manihiki Is
ZK3	Tokelau Is
ZP.	Paraguay
ZR-ZU	Rep of South Africa Prince Edward & Marion Is
ZS9	Walvis Bay
Z3	Macedonia
1A0 Soverei	ign Military Order of Malta Spratly Is
3A 3B6 3B7 3B8 3B9 3C 3C0 3DA-3DM 3DN-3DD 3V 3W	Monaco Agalega Is
3B7	St Brandon
3B9	Rodriguez Is
3C0	Pagalu Is
3DA-3DM 3DN-3DZ	Swaziland
3V	Tunisia
3W 3X 3Y 4F 4J,4K 4J,1R1MV 4K1	Guinea
4F	Philippines
4J,4K 4J1,R1MV	Azerbaijan Malyj Vysotsky Is
4K14K2	Russian Antarctica Franz Josef Land
4N4	Bosnia & Herzegovina
4P,4S	Sri Lanka
4K1 4K2 4N4 4L 4P,4S 4U 4V,4Z	Israel
5A	Libva
UII,UI	Tanzania
5H1	Zanzibar
5N,50	Nigeria
5L 5N,50 5R,5S 5T	Mauritania
5V	Western Samoa
5Y,5Z	Kenya
6V,6W	Senegal Jamaica
7J-7N	Japan
70	Yemen Lesotho
70 70 70 70 70 70 70 71 70 71 70 71 71 71 71 71 71 71 71 71 71 71 71 71	Malawi Algeria
7Ż	Saudi Arabia
8J	Japanese Antarctica
8P 8Q 8R	Maldive Is
9A	
9G	Ghana
9H	Gozo
91,9J 9K	Zambia Kuwait
9L 9M2 9M4	Sierra Leone West Malavsia
9M6	Sapan
9N	Nenat
9Q-9T 9U	Zaire Burundi
9V 9X	Singapore
9Y-9Z	Trinidad & Tobago

6 METER BEACONS

This list has been prepared by Harry Schools KA3B and Ray Clark K5ZMS for SMIRK, the Six Meter International Radio Klub. Please send all update information and Klub membership inquiries to K5ZMS. I=Intermittent beacon. C=Continuous beacon.

FREQ.	CALL	OPERATION	LOCATION	GRID	NOTES
35.810	VK6R0	1	Western Australia		3W,6 el Yagi
41.750	VK6R0	1	Western Australia		8W,6 el Yagi
45.250	Ch. 1	1	New Zealand TV video		
46.250 48.250	Ch. 0 Ch. E2	1	Australian TV video European/African TV video		
49.750	Ch. RI	i	European/Asian TV video		
50.000	CE3BXK	ì	Santiago, Chile		
50.000	GB3BUX	C	Sheffield Univ., Buxton, England	1093BF	15W, Turnstile
50.005	ZS2SIX	С	Rep. of South Africa	KF25	25W, dipole N/S
50.005	H44HIR	C	Honaria, Solomon Islands	Q100 EN26	OM Hala 25'
50.007.2 50.010	KOGUV VE7SIX	C C	Park Rapids, Minnesota, USA Kaleden, BC, Canada	DN09	8W, Halo 35' 130W, Swiss Quad
50.010	JA2IGY	C	Mie (near Nagoya), Japan	PM84	10W, ground plane
50.013	P29BPL	Č	Port Moresby, Papua New Guinea	Q130	30W, dipole
50.015	SZ2DH	I	Athens, Greece	KM18MM	10W, 5 el yagi
50.015	PJ4B	C	Bonaire, Netherlands Antilles	DMC4	40M/ 0V/0
50.017 50.018	JE6ZIH ZS3VHF	C C	Miyazaki, Japan	PM51 JG87	10W, 2X/Squalo 50W, ground plane
50.020	GB3SIX	C	Rep. of South Africa Anglesey, Wales	1073TJ	25W, 3 el Yagi
50.020	CX1CCC	Č	Uruguay	GF15	5W, ground plane
50.025	6Y5RC	Č	Kingston, Jamaica	FK17MX	40W, 3 el Yagi
50.026.5	ZS6PW	1	Rep. of South Africa	KG44	
50.028	JA7ZMA	C	Fukushima, Japan	QM07	10W, 6 el Yagi
50.030	CTOWW	C	Joao Pesdueira, Portugal	IN61GE	40W, dipole 50W, JVL vertical
50.032.5 50.033	ZD8VHF LU8YYO	C C	Ascension Island Argentina	1122	SOVV, JVL Vertical
50.035	ZB2VFH	Č	Gibraltar		
50.035	ZS3VHF	Č	Rep. of South Africa		60W, vertical
50.039	FY7THF	С	Kourou, French Guyana	GJ35	100W, ground plane
50.040	CX8BE	1	Montevideo, Uruguay	GF15	10W, 4 el Yagi
50.040	SV1SIX		Greece	FK60	10W 6 al Vogi
50.045 50.045	YV5/DL3ZN 0X3VHF	C	Caracas, Venezuela Simiutaq, Greenland	GP60QQ	10W, 6 el Yagi 20W, ground plane
50.050	GB3NHQ	C	Potters Bar, England	1091VQ	15W, dipoles
50.050	ZS6DN	Č	Irene, Rep. of South Africa	KG44	,
50.055	ZS6LN	1	Rep. of South Africa	KG46	
52.056	VK8VF	C	Darwin, Australia	PH57	20W, horizontal
50.057.5	TF2SIX	C	Iceland .	HP94CC	50W, vertical
50.060 50.060	GB3RMK K4TQR	C C	Rosemarkie, Scotland Birmingham, Alabama, USA	1077U0 EM630M	20W, dipole 1W, dipole 60'
50.060	WA80NQ	C	Middletown, Ohio, USA	EM79TM	2W, Turnstile 60'
50.060	W5VAS	Č	Slidell, Louisiana, USA	EM50	0.5W, vertical 310
50.060.2	PY2AA	C	Sao Paulo, Brazil	GG66QK	25W, ground plane
50.061	K1NFE	C	Burlington, Connecticut, USA	FN31MS	15W, Turnstile 70'
50.062	W3VD	C	Laurel, Maryland, USA	FM19NC	10W, vertical 40'
50.062.5 50.063	GB3NGI N4PZ	C C	Londonderry, No. Ireland Sarasota, Florida, USA	1065 EL87SF	18W, dipole 0.4W, whip 70'
50.063	K6MYC	l .	Kona, Hawaii, USA	BK29	10W, M sq. Yagi
60.064	WD7Z	C	Yucca, Arizona, USA	DM24MV	75W, Squalo, 60'
50.065	WA10JB	C	Bowdoin, Maine, USA	FN54	13W, J-pole 15'
50.065	NB30/1	C	Rhode Island, USA	FN41	100W, 5 el Yagi
50.065 50.065	W9KF0	C	Eaton, Indiana, USA	EN70HH DM79PS	1.5W
50.065	KAOCDN WOIJR	C C	Aurora, Colorado, USA Aurora, Colorado, USA	DM79PS	20W, Halo 30' 20W, Halo 30'
50.065	KL7WE	Ĭ	Anchorage, Alaska, USA	BP51	1.5W, 3 el Yagi
50.065.5	GB310J	C	Jersey, Channel Islands	IN89	10W, Halo
50.066	VK6RPR	С	Perth, Australia	0F78	20W, horizontal
50.067	WB8IGY	I	Loveland, Ohio, USA	EM79UG	2W, vertical 100'
50.067 50.067	N7DB		Boring, Oregon, USA	CN85TM	10W, Halo 30'
50.068	W7US	C C	Brazzaville, Congo AM Station Tucson, Arizona, USA		
50.068.5	W4RFR	C	Nashville, Tennessee, USA	EM66WA	2W
50.069	W4HHK	C	Collierville, Tennessee, USA	EM55HA	1W, dipole 30'
50.069	K6FV	C	Woodside, California, USA	CM87UL	100W, various 30'
50.070	WOBJ	C	North Platte, Nebraska, USA	DN91NC	5W, Turnstile 12'
50.070 50.070	KA4VEY KB4UPI	C C	Harvest, Alabama, USA Birmingham, Alabama, USA	EM64VV EM630M	10W, vertical 4W, dipole 25'
50.059	JH0ZPI	J	Ueda City Nagano, Japan	LIVIOGOIVI	1W/5W/10W switch op.
50.070	KA4VEY	С	Harvest, Alabama, USA	EM64VV	10w, vertical
50.070	KB4UPI	C	Birmingham, Alabama, USA	EM630M	4W, dipole 25'
50.070	K0TF	С	Des Moines, Iowa, USA	EN31KC	3W, inverted V

6 METER BEACONS

FREQ.		CALL	OPERATION	LOCATION		GRID	NOTES
50.070		N4LTA	C	Spartanburg, S. Carolina, USA		EM94AX	10W, Halo 50'
50.070		WA7ECY	C	Troutdale, Oregon, USA		CN85SM	10W, Squalo 30'
50.070		WB0CGH	C	Lewisville, Texas, USA		EM13MC	1.5W, Halo 180'
50.070		WB4GJG	Ĭ	Danville, Virginia, USA		FM06HM	1W, Ringo 70'
50.071		WOVD	C	Joplin, Missouri, USA		EM27VD	12W, dipole 20'
50.072		WA2YTM	Č	Canadaigua, New York, USA		FN121T	15W, Turnstile
50.072		KW2T	Č	Palmyra, New York, USA		FN13	0.25W, Squalo 30'
50.074		WB4DSH	Č	Oklahoma City, Oklahoma, USA		EM15FL	30W, Halo 40'
50.075		K7IHZ	ĭ	Mesa, Arizona, USA		DM43BM	20W, Squalo
50.075		PY2AMI	C	Americana, Brazil		GG67IF	10W, ground plane
50.075		NL7XM/Z	Č	Staten Island, New York, USA		FNZOWN	10W, vertical
50.075		KP4EKG	ĭ	Bayamon, Puerto Rico, USA		FK68	10W, vertical 35'
50.075		VS6SIX	C	Hong Kong		0L72	30W, ground plane
50.077		NOLL	Č	Smith Center, Kansas, USA		EM090S	21W, 2 Halos 30'
50.077		N5JM	Ĭ	New Orleans, Louisiana, USA		EL49XW	3W, vertical 50'
50.077.5		TI2NA	C	San Jose, Costa Rica		EK70	20W, dipole
50.079		W6SKC/7	Č	Nogales, Arizona, USA		DM41ML	5-80W, horizontal 15'
50.080		KH6JJK	Î	Honolulu, Hawaii, USA		BI11CI	5W, 3 el Yagi
50.080		WB400J	C	Tampa, Florida, USA		EL87SU	10W, vertical 25'
50.080		W1AW	Ī	ARRL, Newington, CT, USA		FN31PQ	50W, 6 el Yagi 60'
50.082		HC8SIX	C	Galapagos Islands		EI59	4W, vertical
50.085		9H1SIX	C	Malta		JM75FV	25W, 5 el Yagi
50.086		LU1MA	C	Mendoza, Argentina		FF57	10W, 2 el Quad
50.086		K7NV	ĺ	Pahrump, Nevada, USA		DM16	
50.086		VE2STL	C	Val Belair, Quebec, Canada		FN46	1.5W, dipole
50.086		VP2M0	Ĩ	Plymouth, Montserrat		FK86	10W, 6 el Yagi 50'
50.090		KJ6BZ	C	Jonnston Island		AK56	10W, 6 el Yagi
50.092		W5GTP	Ī	New Iberia, Louisiana		EM40CA	30W, 3 el Yagi 30'
50.100		HC2FG	C	Guayaquil, Ecuador		F107	8W, J-pole
50.100		VP5D	C	Turks & Caicos Islands		FL31	6W, AR6 Ringo 60'
50.100		KG6DX	I was a second	Latte Heights, Guam		QK23	40W, 3 el Yagi
50.110		JA2IGY	C	Mie (near Nagoya), Japan	19-14-15	PM84	10W, ground plane
50.110		A61XL	1	United Arab Emirates		LL74	50W, 6 el Yagi
50.120		4S7EA		Sri Lanka		MJ97	50W, 6 el Yagi
50.321		ZS5SIX	C	Pietermaritzburg, RSA		KG50	10W, Halo
50.490		JG1ZGW	C	Tokyo, Japan		PM95	10W, dipole
50.500		5B4CY	C	Zyghi, Cyprus		KM64HT	15W, ground plane
50.740	5.0	Ch. 1 Audio	4 - 2 - 2 - 2 - 2 - 2	Auckland, New Zealand		WBFM	
50.750		Ch. 1 Audio	I	Kaukapunake, New Zealand		WBFM	
50.760		Ch. 1 Audio	1	Waukapunake, New Zealand		WBFM	
50.904		ZS1STB	C	Republic of South Africa		KF05	25W, ground plane
51.020		ZL1UHF	C	Auckland, New Zealand		RF73	25W, dipole
51.030		ZL2MHB	C	Napier, New Zealand		RF80	10W, vertical
51.225		ZL2VHTC		Inglewood, New Zealand		RF70	30W
51.670		Ch. 0 Audio		Brisbane, Qld, Australia		FM	
51.740		Ch. 0 Audio	1 / /	Wagga, NSW, Australia		FM	
51.760		Ch. 0 Audio	I	Melbourne, Vic, Australia		FM	
51.910		Ch. 0 Audio		Brisbane, Qld, Australia		12:12	
52.100		ZK2SIX	C	Niue		AH50	
52.200		VK8VF	C	Darwin, Australia		PH57	20W, horizontal
52.250		ZL2VHM	C	Manawatu, New Zealand		RE79	8W
52.310		ZL3MHF	C	Christchurch, New Zealand		RE66	50W, vertical
52.320		VK6RTT	C	Wickham, Australia		0G89	25W, J-pole
52.325		VK2RHV	C	Newcastle, Australia		QF57	20W, horizontal
52.330		VK3RGG	C	Geelong, Australia		QF21	10W, horizontal
52.345		VK4ABP	C	Longreach, Australia		QG26 QE37	10W, vertical 20W, horizontal
52.370		VK7RST	C	Hobart, Australia		QF56	25W, Turnstile
52.420 52.425		VK2RSY VK2RGB	C	Sydney, Australia Gunnedah, Australia		QF59	5W, horizontal
52.440		VK4RTL	C	Townsville, Australia		QH30	10W, 1/4 vertical
52.440		VK4NTL VK5VF	C	Adelaide, Australia		PF95	30W, Turnstile
52.450		VK6RPH	C	Perth, Australia		0F78	20W, horizontal
52.465		VK6RTW	C	Albany, Australia		0F84	10W, horizontal
52.470		VK7RNT	C	Launceston, Australia		QE38	10W, horizontal
52.485		VK8RAS	C	Alice Springs, Australia		PG66	25W, horizontal
52.490		ZL2SIX	C	Blenheim, New Zealand		RE68	10W, vertical
52.510		ZL2MHF	Č	Upper Hut, New Zealand		RE78	4W, vertical
				ELS			Control of the second

INTERNATIONAL POSTAL RATES

These are the postal rates in effect at the time of this issue.

	United States & Possessions	Canada	Mexico	All Other Countries
First Class Air Postcard(QSL)	\$0.19	\$0.40	\$0.35	\$0.50
Surface Postcard (QSL) (1 Oz.)				\$0.50
First Class Air Letter (1 Oz.)	\$0.32	\$0.52	\$0.46	\$1.00
Additional Ounces	\$0.23	\$0.23**	\$0.40***	
Surface Letter (1 Oz.)				\$0.80*
Aerogramme				\$0.50

^{*}Over 1 up to 2 oz. \$0.95; over 2 up to 3 oz. \$1.20, Over 3 up to 4 oz. \$1.45

INTERNATIONAL REPLY COUPONS (IRC's) may be purchased at U.S. Post Offices for \$1.05 each.

A free service for all radio amateur callbook customers...

CALLBOOK ON-LINE UPDATES

An exclusive service from the *Callbook!* And it's FREE to all *Callbook* subscribers with personal computer. No annual fee is charged, preregistration in not required, and you don't need a password.

The *Callbook* has established a dedicated telephone line for this 24 hour On-line Update Service. Users have access to listing information entered into the *Callbook's* master line which has not yet been published in a *Callbook*. New licenses, upgrades, address changes, Silent keys and "Then and Now" call sign changes are included

This service is not restricted to U.S. calls. All new or modified *Callbook* listings, U.S. or foreign, are available.

This on-line service is easy to use:

- You need a personal computer with a modem capable of speeds up to 28.8K baud. The line settings must be 8 data bits, 1 stop bit, and no parity (8,N,1). Your communications software must emulate a DEC VT100-A terminal.
- 2. Call (908) 905-3074.
- 3. After connection, press Enter twice.
- **4.** The sign-on screen will say "Type ON." Key in the letter "O" and "N" and then press Enter. (Do not key in the quotation marks.)
- Follow the instructions on the introductory screen. To make this service available to all amateurs, you will be allowed a maximum of 3 sign "look ups" per telephone call.

YOUR HEADQUARTERS FOR THE SHACK COMPUTER



LOGic--the ultimate in software for your shack! Logging, awards tracking, digital communications, QSLing, contesting and more. Interfaces to the *Radio Amateur Callbook*. The most powerful and flexible package available! See reviews in 3/95 73 and 5/95 QST. Windows 3.1 or 95 \$99, DOS \$79.

The PDA QSL Route List. A must-have tool for the DXer! 30,000 routes and managers. The perfect companion to the *Radio Amateur Callbook*. Updated monthly. \$10. Subscribe and save!





SARtek 1—the only universal antenna rotator controller—supports all popular rotor controllers! Computer interface automatically aims your antenna. Use with LOGic. Standard serial interface is easily supportable by other software. Only \$179!

Also available: Radio interface hardware for Kenwood, Icom and Yaesu, \$50. Keyer interface hardware, \$25. Radio Amateur Callbook CD-ROM, \$49.95. Shipping extra on most products. Ask for free infopak. Visit our web page.



Personal Database Applications, Dept R, 1323 Center Dr., Auburn, GA 30203. 770-307-1511. 770-307-0760 fax. e-mail: rac@hosenose.com web: http://www.hosenose.com/~pda

^{**}Over 1 up to 2 oz. \$0.72; over 2 up to 3 oz. \$0.95; over 3 up to 4 oz. \$1.14

^{***}Over 1 up to 1½ oz. \$0.66; over 1½ up to 2 oz. \$0.86; over 2 up to 3 oz. \$1.26; over 3 up to 4 oz. \$1.66

THIRD-PARTY TRAFFIC

The U.S. Federal Communications Commission defines third-party traffic [Part 97.3 (a) (38)] as: "a message from the control operator (first party) of an amateur station to another amateur station control operator (second party) on behalf of another person (third party)." U.S. amateurs are only permitted to handle such third-party traffic with countries having third-party agreements with the United States.

The following is a current list of these countries:

V2	Antigua & Barbuda	YS	El Salvador		YN	Nicaragua
LU	Argentina	9G	Ghana		HP	Panama
VK	Australia	J3	Grenada		ZP	Paraguay
V3	Belize	TG	Guatemala	4	OA	Peru
CP	Bolivia	8R	Guyana		DU	Philippines
PP-PY	Brazil	HH	Haiti		VR6	Pitcairn Is.
VE,VO,VY	Canada	HR	Honduras		V4	St. Kitts, Nevis
CE	Chile	4X,4Z	Israel		J6	St. Lucia
HK	Colombia	4U1ITU	ITU, Geneva		J8	St. Vincent
D6	Comoros	4U1VIC	ITU, Vienna		9L	Sierra Leone
TI	Costa Rica	6Y	Jamaica		3D6	Swaziland
CM,CO	Cuba	JY	Jordan		C5	The Gambia
J7	Dominica	EL	Liberia		9Y	Trinidad & Tobago
HI	Dominican Republic	XE	Mexico		CX	Uruguay
HC	Ecuador	V6	Micronesia		YV	Venezuela

RECIPROCAL OPERATING AGREEMENTS

The United States has negotiated reciprocal operating agreements with many other countries. Amateurs may operate within the territory of these countries according to the terms of the agreement after first obtaining a permit from the host country. The sole exception is Canada: amateurs with valid U.S. or Canadian licenses may operate within the other country's territory without obtaining a permit. They must, of course, abide by all the terms of the reciprocal operating agreement.

The following is a current list of countries having reciprocal operating agreements with the United States:

V2	Antigua & Barbuda	OX	Greenland	YN	Nicaragua
LU	Argentina	J3	Grenada	LA	Norway
VK	Australia	TG	Guatemala	HP	Panama
OE	Austria	8R	Guyana	P2	Papua New Guinea
C6	Bahamas	HĤ	Haiti	ZP	Paraguay
8P	Barbados	HR	Honduras	OA	Peru
ON	Belgium	VS6	Hong Kong	DU	Philippines
V3	Belize	TF	Iceland	CT	Portugal
CP	Bolivia	VU	India	J6	St. Lucia
A2	Botswana	YB-YH	Indonesia	J8	St. Vincent
PP-PY	Brazil	El 🔞	Ireland	S7	Seychelles
VE,VO,VY	Canada	4X,4Z	Israel	9L	Sierra Leone
CE	Chile	1	Italy	H4	Solomon Is.
HK	Colombia	6Y	Jamaica	ZR,ZS	Rep. of South Africa
TI	Costa Rica	JA-JS	Japan	EA-EH	Spain
5B	Cyprus	6Y	Jordan	PZ	Surinam
0Z	Denmark	T3	Kiribati	SJ-SM	Sweden
J7	Dominica	9K	Kuwait	HB	Switzerland
HI	Dominican Republic	EL	Liberia	HS	Thailand
HC	Ecuador	LX	Luxembourg	9Y	Trinidad & Tobago
YS	El Salvador	V6	Micronesia	T2	Tuvalu
3D2	Fiji	XE	Mexico	G	United Kingdom
OH	Finland	3A	Monaco	CX	Uruguay
F .	France & Territories	PA-PI	Netherlands	YV	Venezuela
DA-DR	Germany	PJ	Netherlands Antilles	YU	Yugoslavia
SV	Greece	ZL	New Zealand		

TELEGRAPH CODES

Continental Code	Morse Code
Used in ham radio	Used on land lines in United States and Canada
NAXAACHOUDOODTATACHEDHEDOODTATACHEDHEDOODTATACHEDHEDOODTATACHEDHEDOODTATACHEDHEDOODTATACHEDHEOODTATACHEDHEOODTATACHEDHEOODTATACHEDHEOODTATACHEDHEOODTATACHEDHEOODTATACHEDHEOODTATACHEDHEOODTATACHEDHEOODTATACHEDHEOODTATACHEDHEOODTATACHEDHEOODTATACHEDHEOODTATACHAOOODTATACHAOODTATACHAOODTATACHAOODTATACHAOOOTACHA	© N X X S C T W W D U O Z M T X C T H D T M U O W W N X X S C T W W D U O Z M T X C T H D T M U O W W I I I I I I I I I I I I I I I I I
Figures 1	Figures 1
Punctuation (.) • - • - • - • (.) • - • • - • (?) • • - • • (:) • • • (:) • • • (-) - • • • - • (!) None at present (') • • (') - • • • (• • • (') - • • • (') - • • • (') - • • •	Punctuation (.) • • • • (.) • • (.) • - • - • (.) - • - • (.) - • • • (.) - • • • (.) - • • • (.) - • • • (.) • • - • (.) • • - • (.) • • - • (.) • • - • (.) • • - • (.) • • - • (.) • • - • (.) • • - • (.) • • - •

Emergency Signal

In a <u>dire</u> emergency situation use SOS by code, MAYDAY by voice.

SPECIAL LISTINGS

A Special Listing in the Callbook is printed in boldface type to ensure your recognition in the crowd and make your listing easier to locate. This service includes special handling to give you just the wording you want. Would you like to include a nickname or a non-controversial slogan? Do you have more than one mailing address, perhaps one in the summer and another in the winter? A Callbook Special Listing can provide these services and more for an entire year at nominal cost. The basic Special Listing is 3 lines or fewer. Additional lines are available up to a total of 9 lines. Please note there is a maximum of 44 characters and spaces per line. The publisher reserves the right to refuse any copy not in keeping with the Callbook's standards.

Copy deadline is September 15, 1996 for the 1997 editions of the *Callbooks*. Item # RC2497

\$15.00 Basic 3-line listing, per year. \$5.00 Each additional line (maximum 9 lines)



Special Listing Order Form						
September 15, 1996, is the deadline for this service in the 1997 RADIO AMATEUR CALLBOOK.						
Call Letters Licenses Call Name						
Enclosed is my	y check or money o	rder.				
Charge my: [□ VISA □ MasterCa	rd 🗌 American Express				
Card #	Exp. Date					
Signature						
Name		* ,				
Address						
City		21 - 12 - 1				
State/Province	Zip/Postal Code					
Country						
* -	RADIO AMATEUR CA	ALLBOOK				

P.O. Box 2013, Lakewood, New Jersev 08701 USA

Telephone: (908) 905-2961 Facsimile: (908) 363-0338

DRDH1996

Standard or local time

STANDARD TIME THROUGHOUT THE WORLD

Standard or local time

The standard time system is based on the theoretical division of the surface of the globe into 24 zones, each of 15° of longitude. The initial zone is the one which has as its central meridian the Greenwich Meridian and with the meridians 7° 30° E. and 7° 30° W. as its eastern and western limits. Time in this zone is called Universal Coordinated Time, or UTC. Places to the east of Greenwich are ahead of UTC, while places to the west are behind UTC. Not all countries follow the International Time Zone System, but will use the time of some principal city as a standard or will have no standard time at all.

Reference - "Standard Time Chart of the World" No. 5192, published by the U.S. Navy Hydrographic Office, Washington D.C.

Standard or local time

The theoretical system described is applied, in a strict sense, only in oceanic regions. On land or on groups of islands the system is applied with certain local deviations made necessary by frontiers or to permit an entire island group to have the same time zone. The time used in each country, whether it is the time of the corresponding zone or a modified time, is fixed by law and is called legal time, or more generally, standard time.

Another deviation from this theoretical system is that certain countries, for economic reasons, modify their legal time for part of the year (especially in summer) by advancing it an hour or another fraction of time. Where such deviations are maintained on a year-around basis, the time kept is considered to be standard time.

	Standard Hours fas	or local time t Time		Standard or Hours fast	local time Time		Standard or local time Hours fast Time
A. V	or slow	at 12:00		or slow	at 12:00	121.70	or slow at 12:00
Country	of UTC	hrs. UTC	Country	of UTC	hrs. UTC	Country	of UTC hrs. UTC
Afghanistan	+ 4½	16 30 14 00	Enderbury Is (Kiribati) Equatorial Guinea	11	01 00	Nicaragua	6 06 00
Aland Is	9	03 00	ESIONIA	+ 3	13 00 15 00	Nicobar Is Niger	+ 1 13.00
Aleutian Is	+ 1	02 00 13 00	Ethiopia		15 00	Nigeria Niue	+ 1 13 00 11 01 00
Algeria Amsterdam Is	+ 5	12 00 17 00	Falkland IsFanning Is	10	08 00 02 00	NorfolkNorway	+ 11½ 23 30 + 1 13 00
Andaman Is Andorra	+ 51/	1730	Faroes Fernando de Noronha Is	0	12 00 10 00	Ogasawara Is.	
AngolaAnguilla	+ 1	13 00 13 00 08 00	Fiji Is Finland	+ 12	24 00 14 00	Oman	4 16 00
Antigua Argentina	3	08 00 09 00	France	1	13 00	Pakistan	+ 5 17 00 10 02 00
Aruba Is	4	08 00	French Guiana French Polynesia	10	09 00 02 00	Palmyra Is Panama	5 07 00
Ascension Is Auckland Is	+ 12	12 00 24 00	Gabon	+ 1	13 00	Papua New Guinea Paraguay	4 08 00
Auckland Is. Auckland Is. Australia: Western Australia. Northern Territory,S. Australia. New South Wales, Queensland, and Victoria	+ 8 + 9½	20 00 21 30	Galapagos Is	5 0	07 00 12 00	Peru Philippines Phoenix Is. (Kiribati)	5 07 00 + 8 20 00
New South Wales, Queensland, and Victoria	+ 10	22 00 13 00	Georgia Germany	+ 4	12 00 16 00 13 00	Phoenix Is. (Kiribati) Pitcairn Is	+ 8 20 00 11 01 00 8½ 03 30
Azores Is	1	11 00 07 00	Ghana	0	12 00 13 00	Poland Portugal	+ 1 13 00
Bahrain Baker Is. (U.S.)	+ 3	15 00 01 00	Gibraltar Gilbert Is. (Kiribati) Gough Is.	+ 12	24 00 12 00	Pribilof Is. Prince Edward & Marion Is.	11 01 00
Balearic is Bangladesh	+ 1	13 00	Greece	+ 2	14 00	Providencia Is.	5 07 00
Barbados	4	18 00 08 00	Central Thule Area		10 00 09 00	Puerto Rico	
Belgium Belize	6	13 00 06 00	Grenada	4	08 00 08 00	Qatar	
Berin Bermuda Is	4	13 00 08 00	Guadeloupe	4	08 00 22 00	Reunion Is	+ 4 16 00 7 05 00
Bhutan	+ 6½ 4	18 30 08 00	Guantanamo Bay	5	07 00 06 00	Romania Rwanda	+ 2 14 00
Bonaire	4	08 00 20 00	Guinea	0	12 00 12 00	Ryukyu Is	9 21 00
Bosnia & Herzegovina	+ 1	13 00	Guinea-Bissau	3	09 00	Sabah (Malaysia)	8 20 00
Botswana	3	14 00 09 00	Haiti	5	07 00	St. Helena Is	4 08 00
Arrazonas, Matto Grosso Acre Territory British Isles	5	08 00 07 00 12 00	Hawaii Heard Is	+ 5	02 00 17 00	St Daul le	+ 5 17.00
Brunei	+ 8	20 00	Honduras	6 + 8	06 00 20 00	St. Pierre & Miquelon Is. St. Vincent	3 09 00 4 08 00
Bulgaria Burkina - Faso	+ 2	14 00 12 00	Hong Kong Howland Is. (U.S.) Hungary	11	01 00 13 00	Saipan	+ 10 22 00
Burundi	+ 2	14 00	Iceland			Samoa Is	11 01 00 5 07 00
Caicos Is Cambodia	4	08 00	India	+ 5½	12 00 17 30	San Marino Sao Tome & Principe Is Sarawak (Malaysia)	
Cameroon	+ 1	19 00 13 00	IranIran	+ 3	15 30 15 00	Sardinia	+ 1 13 00
Campbell Is	31/2		IrelandIsrael	0	12 00 14 00	Saudi Arabia	+ 3 15 00
Anticosti Is., Cape Breton Is., Magdalen Is., New Brunswick,			ItalyIvory Coast	+ 1	13 00 12 00	Senegal Seychelles Is Sicily	+ 1 13.00
Campoell S. Canada: Belle Isle, Labrador, Newfoundland	4	08 00	Jamaica		07 00	Sierra Leone	0 12 00
Melville Peninsula (éast), Ontario (E of 90° W), Quebec (W of 68°).			Jan Mayen Is	1	11 00 21 00	Sint Eustatius Sint Maarten	4 08 00
(E of 90° W), Quebec (W of 68°), and Southampton Is. Manitoba, Ontario (W of 90° W), Melville Peninsula (west), and	5	07 00	Japan	10	02 00	Slovakia	+ 1 13 00
Melville Peninsula (west), and N.W. Territories (east)		06 00	Java (Indonesia)	10	19 00 02 00	Slovenia Solomon Is Somali Republic	+ 1 13 00 + 11 23 00
Alberta, Saskatchewan, and N.W. Territories (middle) British Columbia and N.W.			Jordon Juan Fernandez Is. (Chile)	+ 2 4	14 00 08 00	Somali Republic	+ 3 15 00 + 2 14 00
British Columbia and N.W.	/	05 00	Kanton Is. (Kiribati) Kenya	11	01 00 15 00	South Africa South Georgia Is., South Sandwich Is. South Shetland Is., South Orkney Is. (No definite standard time used.)	2 10 00
Territories (west)	8	04 00 04 00	Kerguelen Is. Kermadec Is.	+ 5	17 00 24 00	(No definite standard time used.)	3 15 00
Callal V IS		12 00	Korea	+ 9	21 00 15 00	South Yemen	+ 1 13 00 + 5½ 17 30
Cape Verde		11 00 21 00	Kuwait			Sri LankaSudan	+ 2 14.00
Truk Ponape	+ 10	21 00 22 00 23 00	Laccadive Is	+ 7	17 30 19 00	Sumatra (Indonesia) Surinam	+ 7 19 00 3½ 08 30
Cayman Is.	5	07 00 20 00	Latvia Lebanon	+ 2	15 00 14 00	Svaldard Is	+ 1 13.00
Cayman Is. Celebes Is. (Indonesia) Central African Republic	+ 1	13 00	LesothoLiberia	+ 2	14 00 12 00	Swaziland Sweden	+ 2 14 00
Chagos Is	+ 5	13 00 17 00	Lihva	+ 2	14 00 13 00	Switzerland Syria	+ 1 13 00
Chatham Is	4	08 00	Liechtenstein	10	02 00 15 00	- Taiwan	14
China Christmas Is	+ 8	20 00 19 00	Lithuania Lord Howe Is.	+ 10½	22 30	Tanzania Tasmania (Australia)	+ 3 15 00
Christmas Is C.I.S.: Karelo–Finnish, Belarus, Ukraine, Moldova, and			Luxembourg		13 00	Inaliang	+ / 1900
European Russia	+ 3	15 00 16 00	Macao Macquarie Is Madagascar	+ 8 + 11	20 00 23 00	Timor Is. (Indonesia) Togo	+ 8 20 00 0 12 00
Kazakh, Uzbek, Turkmenistan,	+ 5	17 00	Madagascar Madeira Is.	3	15 00 12 00	Togo Tonga Transkei	+ 2 14 00
Kazakh, Uzbek, Turkmenistan, and Tajikistan Kyrgyzstan & West Siberjan region			Malawi Malaysia	+ 2	14 00 10 30	Trindade Is	2 10 00 4 08 00
approx 82° 30' to 97° 30' W	+ 7	18 00 19 00	Maldive IsMali	+ 5	17 00 12 00	Tristan da Cunha Is Tromelin Is	0 12.00
Buryat, East Siberian region approx. 112° 30' to 127° 30' W	+ 8	20 00 21 00 22 00	Malta	+ 1	13 00	Tunisia	+ 1 13 00
Kuril Is, Sakhalin Is approx. 142' 30' to 158' 30' W approx. 157' 30' to 182' 30' W approx. 172' 30' W to coast	+ 10	23 00	Manchuria Manihiki Is	11	20 00 01 00	Turkey Turks Is	4 08 00
approx. 157° 30' to 182° 30' Wapprox. 172° 30' W to coast	+ 12	24 00 01 00	Mariana Is	+ 10 9½	22 00 02 30	Tuvalu	
Clipperton is.	/	05 00 06 00	Martim Vaz Is.	2	24 00 10 00	Uganda United Arab Emirates	+ 4 16 00
Cocos (Keeling) Is	+ 6%	18 30 07 00	Martinique Is	4	08 00 12 00	United States of America: Eastern Time Central Time	5 07 00 6 06 00
Colombia	+ 3	15 00	Mauritius Is	+ 4	16 00 15 00	Mountain TimePacific Time	7 05 00
Congo Cook Is	10%	13 00 2 01 30	Mayotte	0		Uruguay	3 09 00
Corsica	8	13 00 06 00	Sinaloa, and Nayarit, and Sonora, Sinaloa, Nayarit, and	U	06 00	Vanuatu	+ 11 23 00
Crete	+ 1	14 00 13 00	Baja California (south of 28°N) Baja California (north of 28°N)	/	05 00 04 00	Vatican CityVenezuela	4 08 00
Crozet Is	+ 3 5	15 00 07 00	Midway is	+ 0	01 00 21 00	Vietnam Virgin Is	+ 7 19 00 4 08 00
Curacao	4	08 00 14 00	Monaco Mongolia Mongo	+ 1	13 00 20 00	Wake Is	+ 12 24 00
Czech Republic	+ 1	13 00	Montserrat Morocco	4	08 00	Wallis & Futuna Is	+ 12 24 00
Denmark	+ 1	13 00 17 00	Mozambique	+ 2	14 00 18 30	Western Sahara	+ 9 21 00 4 08 00
Diego Garcia Diibouti	+ 3	15 00					
Dominica	4	08 00 08 00	Namibia Nauru	+ 11½	14 00 23 30	Yemen Yugoslavia	+ 3 15 00 + 1 13 00
Easter Is	7	05 00	Navassa Is	5 + 5¾	07 00 17 40	Zaire	+ 2 14 00
Egypt	+ 5	07 00 14 00	New Caledonia	+ 11	13 00 23 00	ZambiaZanzibar (Tanzania)	+ 2 14 00 + 3 15 00
El Salvador	6	06 00	New Zealand	+ 12	24 00	Zimbabwė	2 14 00

10 METER BEACONS

FREQ.	CALL	OPERATION	LOCATION		NOTES
28.175 28.1825 28.191 28.195 28.2 28.201 28.202 28.2025 28.204 28.205 28.206 28.2075 28.208 28.209 28.21 28.21	VE3TEN SV3AQR/B VE6YF IY4M GB3SX LU8ED KE5GY ZS5VHF DL0IGI KA30EM KJ4X N8ZKP WA110B NX20 3B8MS K4KMZ	C C ROBOT C I C	OTTAWA, ONT. AMALIAS, GREECE EDMONTON, ALTA. BOLOGNA, ITALY CROWBOROUGH, ENGLAND ARGENTINA ARLINGTON, TX NATAL, RSA GERMANY MEADVILLE, PA PICKENS, SC BROOKPARK OH MARLBORO, MA STATEN ISLAND, NY MAURITIUS ELIZABETHTOWN, KY		10W,GP 4W,GP 10W 20W,5/8 GP 8W,DIPOLE 5W 5W,VERTICAL 5W,GP 100W,VERT DIPOLE 27W,YAGI/WEST 2W,VERTICAL 10W,VERT 75W,VERT 10W,GP GP 20W,VERT
28.21 28.212 28.2125 28.213 28.216 28.2175 28.218 28.2185 28.2195 28.22 28.221 28.221	KC4DPC EA6RCM ZD9GI PT7BCN GB3RAL WB9VMY W8UR PT8AA LU4XS 5B4CY PY2GOB W9UXO	C C C C C	WILMINGTON, NC PALMA DE MALLORCA GOUGH ISLAND CEARA, BRAZIL SLOUGH, ENGLAND CALUMET, OK MACKINAC ISLAND, MI RIO BRANCO, BRAZIL CAPE HORN, ARGENTINA CYPRUS SAN PAULO, BRAZIL NR CHICAGO, IL		4W,DIPOLE 4W,5 EL YAGI NNE GP 20W,GP 2W,DIPOLE 0.5W,VERT 5W,GP 26W,GP 15W,VERT 10W,GP
28.2225 28.225 28.225 28.225 28.2275 28.23 28.232 28.233 28.235 28.237 28.237 28.2375 28.2375	HG2BHA N6TWX KW7Y PY2AMI EA6AU ZL2MHF W7JPI KD4EC VP9BA NV6A LA5TEN 5Z4ERR	000000000000000000000000000000000000000	TAPOLCA, HUNGARY GRASSVALLEY, CA EVERETT, WA SASO PAULO, BRAZIL MALLORCA, BALEARIC IS MT. CLMIE, NEW ZEALAND SONOITA, AZ JUPITER, FL HAMILTON, BERMUDA SAN DIEGO, CA OSLO, NORWAY KIAMBU, KENYA		10W,GP 30W,3 EL YAGI 4W,OMNI 5W,DIPOLE 10W,5/8 GP 50W,VERT DIPOLE 5W,3 EL YAGI NE 7W,GP 10W,GP 0.5W,VERT 10W,5/8 GP
28.244 28.245 28.2455 28.246 28.2475 28.248 28.2495 28.25 28.25 28.25 28.25 28.250 28.2505 28.2522	WA6APQ A92C ZS1CTB N8KHE EA2HB K1BZ EA3JA W3SV KOHTF Z21ANB WA4SLT 4N3ZHK WJ7X OH2TEN	C C C C C C C C C C C	LONG BÉACH, CA BAHRAIN CAPETOWN, RSA MACKINAW, MI SPAIN BELFAST, ME BARCELONA, SPAIN ELVERSON, PA DES MOINES, IA BULAWAYO, ZIMBABWE HASTINGS, FL MT. KUM, YUGOSLAVIA SEATTLE, WA FINLAND		30W,VERT DIPOLE NW/SE 20W,1/4 VERT 0.050W,VERT 6W,GP 5W,VERT DIPOLE 10W,VERT 2W,GP 8W,GP 20W,VERT 1W,VERT 5W,RINGO
28.255 28.2575 28.258 28.259 28.262 28.263 28.264 28.265 28.266 28.266 28.266 28.268 28.2685 28.27 28.27 28.27 28.2705 28.2705	LUIUG DK0TEN WB4JHS WB9FVR VK5WI VK2RSY N6PEQ VK6RWA VK4RIK VK6RTW KB4UPI VK8VF W9KFO ZS6PW VK4RTL KF4MS 9L1FTN	C C C C C C C C C C	G RAL PICO, ARGENTINA ARBEITSGEN, GERMANY KISSIMMEE, FL PEMBROKE PINES, FL ADELAIDE, AUSTRALIA SYDNEY,NSW,AUSTRALIA TUSTIN, CA PERTH, WA, AUSTRALIA CAIRNS, AUSTRALIA ALBANY, WA, AUSTRALIA BIRMINGTON, AL DARWIN, AUSTRALIA EATON, IL PRETORIA, RSA TOWNSVILLE, QLD, AUSTRALI ST PETERSBURG, FL FREETOWN, SIERRA LEONE	A	5W,GP 40W,GP 5W,VERT 1W,DIPOLE 10W,GP 25W,GP 2W,HORZ DIPOLE 20W,1/4 VERT 0.750W,VERT 10W,3 EL YAGI 5W 10W,VERT DIPOLE
28.2745 28.275 28.2755	ZS1LA AL7GQ N6RDX	C	STILLBAY, RSA DENVER, CO STOCKTON, CA		20W,3 EL YAGI NW 1W,LOOP 20W,3 EL YAGI

10 METER BEACONS

FREQ.	<u>CALL</u>	OPERATION	LOCATION	<u>NOTES</u>
28.277	DF0AAB	C	KIEL, GERMANY	10W,GP
28.28	LU8EB		ARGÉNTINA	5W '
28.282	VE1MUF	C	FREDRICKTON, NB, CANADA	0.5W,DIPOLE
28.282	VE2HOT	C	BEACONSFIELD, QUE, CANADA	5W,VERT DIPOLE
28.2825	OK0EG	C	HRADEC KRALÓVE, CZECH	10W.DIPOLE
28.284	VP8ADE	C	ADELAIDE IS, NR ANTARCTICA	
	8W,V		BEAM TO ENGLAND	
28.285	N2JNT	C	TROY, NY	1W,GP
28.286	KE2DI		NR ROCHESTER, NY	2W, VERT DIPOLE
28.286	KK4M	С	LAS VEGAS, NV	5W.VERT
28.2865	N5AQM	C	ARIZONA	2W.VERTICAL
28.287	VM08W		NR ASHVILLE, NC	5W.GP
28.287	H44SI	С	SOLOMON IS	15W
28.288	W2NZH	1.	MOORESTOWN, NJ	3W GP
28.29	SK 5TEN		SWEDEN	5W,1/2
28.29	VS6TEN	C	HONG KONG	10W,VERT
28.292	ZD8HF		ASCENSION ISLAND	XY 2 C 34
28.2925	LU2FFV		SAN JORGE, ARGENTINA	5W,GP
28.284	KE0UL		GREELY, CO	5W OMNI VERT
28.295	WC8E	1	CINCINNATI, OHIO	10W,RINGO
28.295	W3VD	С	LAUREL, MD	1,5W,VERT DIPOLE
28.297	WA4DJS		FT LAUDERDALE, FL	30W,GP
28.3025	PT7AAC		FORTALEZA, BRAZIL	5W,GP
			-CODE PRACTICE	
28.993	DFOANN	C	NUREMBERG, GERMANY	0.30W,
			1-EL DELTA LOOP	

C=Continuous;

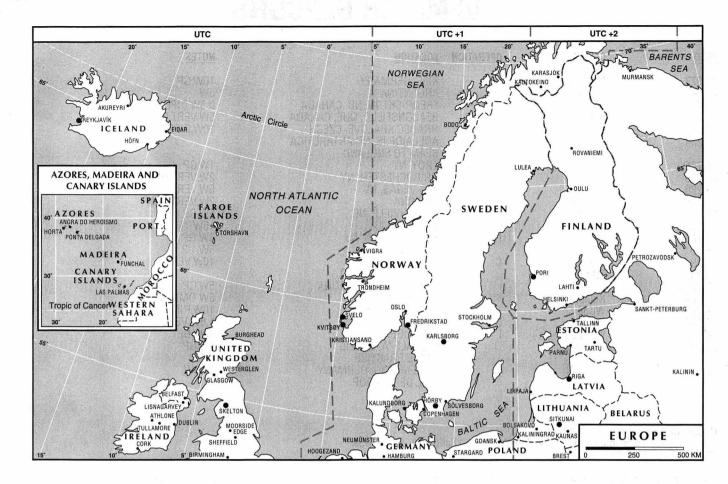
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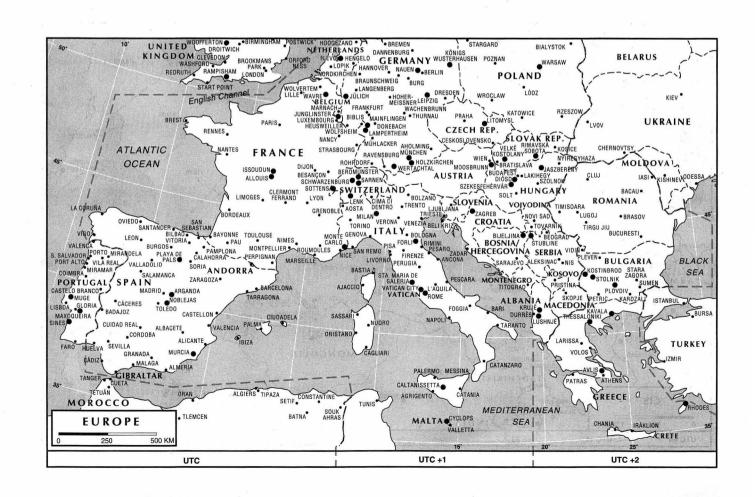
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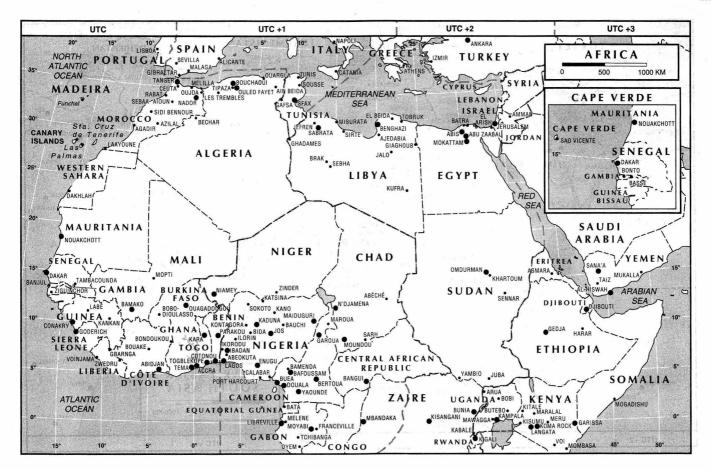
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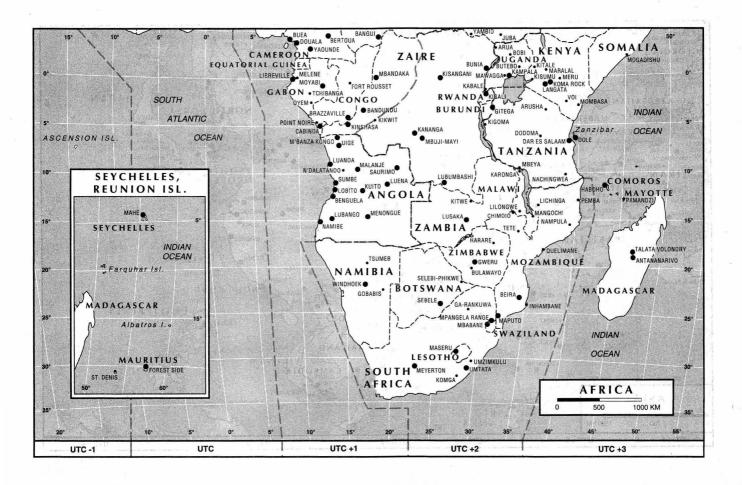
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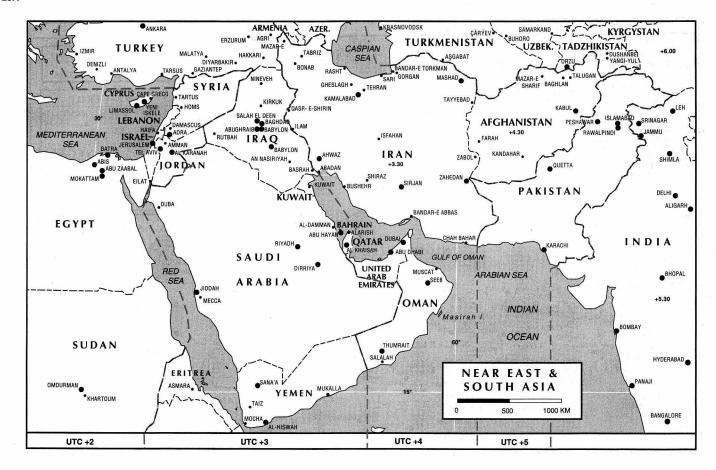


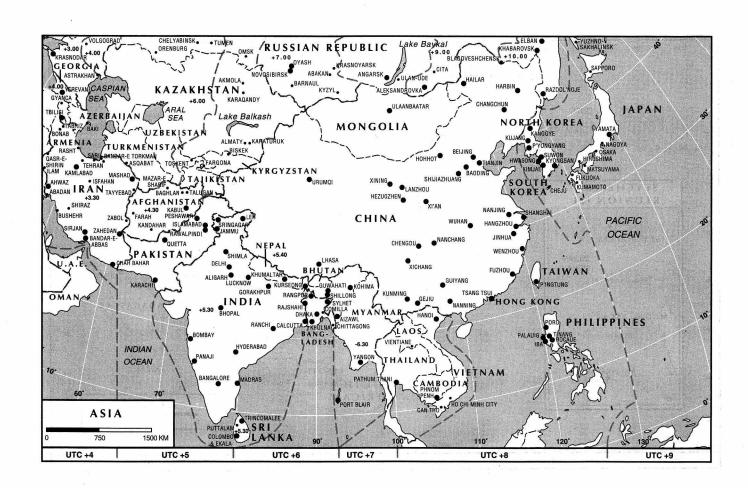


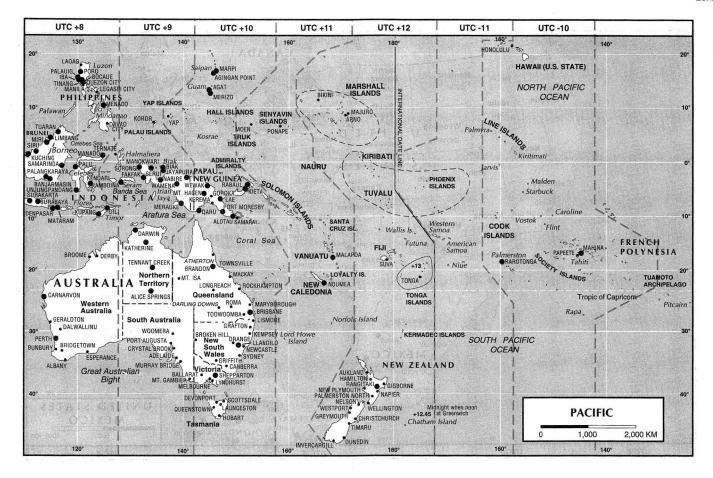


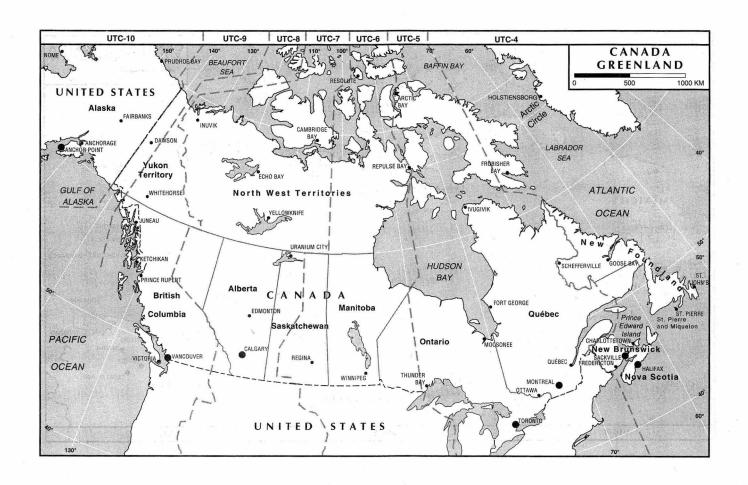


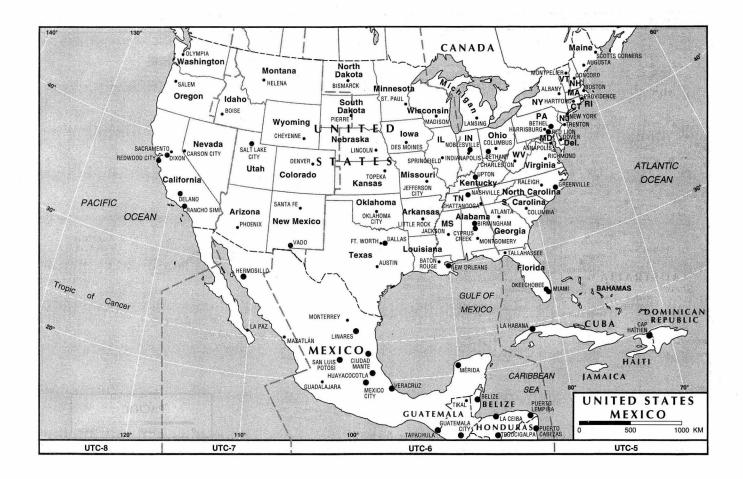


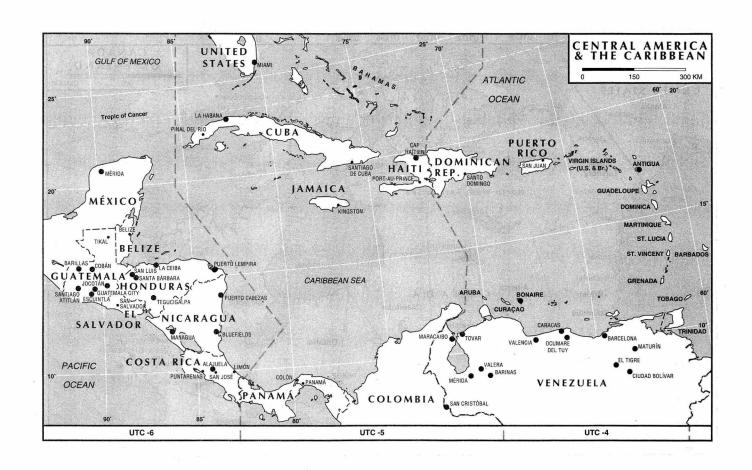














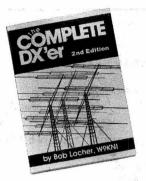
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